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PACIFIC NORTHWEST Executive

University of Washington
Graduate School of Business
Vol. 1, No. 2 October 1985

►FOCUS ON AGRICULTURE

REGIONWATCH:
- Agricultural Production Indicators
- Worth Reading

Managing Death and Dying in the Workplace

Can Japanese Business Stay Successful?

Joint Venture Management: The U.S.-Soviet Connection

From Seafirst Bank

It was with great pleasure that Seafirst Bank and the University of Washington Graduate School of Business embarked earlier this year on this new, quarterly economic publication. The joint venture is a commitment to offer information about economic policy and factual data for the Pacific Northwest Region. The Pacific Northwest is Seafirst's focal point, the region which helped us grow and gave us staying power when we needed it, so we are happy to sponsor this ongoing series. Economic vitality is important to us all and with that comes the need for data and creative thought about economic and public policy matters.

Pacific Northwest Executive *quarterly magazine and the Seafirst Economic Forum, a lecture series coming this fall, provide an opportunity for individuals, business executives, academicians, and state employees to take stock of the region and know what the facts and trends are. With better information and knowledge presumably come better decisions and public choices.*

Certainly, by working together in this way, the University of Washington and Seafirst Bank meet some of our own institutional objectives. More importantly, however, needs of the managers and planners in the region are met. Seafirst Bank is pleased to be a part of making that happen.

Richard P Cooley

Richard P. Cooley
Chairman of the Board
Seafirst Bank

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PACIFIC NORTHWEST Executive

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Can Japanese Business Evolve?

by Ikujiro Nonaka

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Japanese corporations do a lot of business in the Northwest. Can they sustain their success in international business in the face of new world economic conditions? Comparing the modern Japanese corporation with the World War II Imperial Army and Navy raises some interesting questions and provides some unusual insights.

◆

The Japanese military suffered a catastrophic defeat in World War II. It was a natural consequence that, after the war, the Japanese who had lived through that wretched experience asked themselves why they had lost. Recently, discussion in Japan has shifted to what can be learned from the Japanese defeat in World War II. A new area of inquiry has focused on the study of the Japanese military as an organization. The modern corporation in Japan may not be the grandchild of the Japanese army, but it is a relative. The study of the one can lead to insight about the other.

In *The Essence of Failure*, a number of management writers analyzed the Japanese military organization. We came to the conclusion that the Japanese military possessed in large measure the characteristic of environmental overadaptation based on prior successes and, as a result, was incapable of what we call self-renewal. Failure of the organization then became inevitable. There are lessons to be learned here for the modern corporation.

Every organization must accumulate and develop resources in such a way as to adapt to the external environment, taking advantage of opportunities and coping with threats. The process is one of strategy making and implementation, and it begins with the monitoring of the organization's performance. In performance data is embedded uncertainty-reducing information which is used to modify the organization's structure, its control systems, and the behavior of its members so as to conform to the changing environment. This unceasing change is the lifeblood of adaptation and self-renewal. The Japanese military failed at it, and its failure is instructive.

Ikujiro Nonaka is a leading management consultant in Japan. He is one of the authors of The Essence of Failure, *a best-selling book in Japan about what modern Japanese business can learn from the defeat of the Japanese military in World War II. He is also a professor of management at Hitotsubashi University in Tokyo.*

Japanese Military Strategy

The strategy of the Japanese military organization in World War II can be summed up in a "paradigm," a "way of viewing things." The Imperial Army paradigm revolved around the concept of hand-to-hand fighting. The key to victory on a battlefield was thought to be the last great bayonet charge and the resulting hand-to-hand fight. In the Imperial Navy the paradigm focused on the exchange of cannon fire between the major warships on each side. The battle would be decided by the great salvos of the giant battleships.

The chart on the following page describes the army and navy paradigms in terms of their respective organizational elements. These paradigms were developed during the Russo–Japanese War, in which both military forces were successful. Of historic significance was the Japanese navy's total defeat of the Russian Baltic fleet on May 27-28, 1905. This success, and the army's triumphant use of the charge by soldiers in hand-to-hand combat, electrified Japanese strategists and solidified their way of viewing things. These views were personified in such "heroes of the organization" as Admiral Togo and Admiral Akiyama of the navy and General Nogi of the army.

As the paradigms became embedded in Japanese military thinking, organizational characteristics were made to conform to them instead of to a changing environment. Thus, strategy soon divorced itself from reality. Promotion in the armed forces went to gunnery or infantry officers, regardless of external considerations. And training emphasized rote memory rather than creative adaptation. Strict adherence to battle principles was expected, even in conditions of high uncertainty.

CALLIGRAPHY *THE ESSENCE OF FAILURE*

The Japanese military soon became a concrete example of the evolutionary theory that adaptation precludes adaptability. The better adapted it became to one environment, the less likely it would be to adapt itself to a changed environment. It became a modern version of the dinosaur, which was both physiologically and morphologically suited to being a herbivore but could not adapt to changes in climate and food supply.

Excessive adaptation in an organization is countered by the process of self-renewal. It is necessary to disrupt the hard won equilibrium which the organization has developed over time. There are two ways to do this. First, a deliberate disruption regarding resources, structure, and leadership can be instituted. New people can be brought in to shake up the organization. Second, the process of technological development can be encouraged. New technologies usually force an organization to change. The Japanese military did neither of these things. New ways of thinking were not encouraged and conformity was rewarded. Technology was compelled to support the paradigms. In the army, French light tanks were used as a model. These light and medium tanks, hopelessly outclassed in both firepower and defensibility by American tanks in World War II, fit the strategy, but the strategy did not fit itself to the environment.

Unlearning and Self-renewal

When there is a discrepancy between the action taken by an organization and the results of that action, existing knowledge comes into doubt and a search for new knowledge begins. The organization "unlearns," casting aside its beliefs and seeking new beliefs. Unlearning is the key to organizational self-renewal. Up to the epic struggle with the U.S. Marines on Guadalcanal, the Japanese army had had unqualified success with its strategy of the hand-to-hand charge. In the face of the modern tactics of the Marines, however, the Japanese strategy was doomed. Against the Marines the Japanese made three night attacks, each one centering on the bayonet charge. All were repulsed with heavy losses. The strategy did not work, and unlearning should have occurred in senior army circles. It did not. In the navy, although some strengthening of aircraft carriers did occur after the Midway

PATRICK CHAPIN

defeat, it was believed right up to the end of the war that the destructive forces of the 46 cm. guns of the *Yamato* and the *Musashi* would be victorious. No unlearning occurred here, either.

The process of self-renewal, then, is one of creative destruction of the organization's equilibrium followed by unlearning and a change in strategy to adapt to a changed environment. This process was followed in the American military in the 1930s to a much greater extent. Flexible and rapid promotion systems were instituted and new technology was encouraged. As new ideas and new technology called existing paradigms into question, the Americans unlearned. They cast aside old ways of viewing things and developed new strategic concepts which fit the changing environment they faced.

The Japanese were burdened by the "failure born of success" syndrome. In the Russo-Japanese war and the China Incident, Japan won victory after victory. The ideas of self-renewal through creative destruction and unlearning had no meaning for them within the context of success.

The Modern Business Organization

Japan's major corporations have experienced a decade or more of successful performance. Much of that success was due to the dissolution of the *zaibatsu* and purging of many former top managers after the war. A thorough change of leadership was made, and the result was a new set of Japanese organizations brimming with vitality.

The strategy adopted by Japanese companies was operations-oriented and was formulated instinctively. An advantage of the instinctive strategy is that it has the capacity to continually adapt to change in an incremental, inductive manner. Self-renewal is a gradual tuning process in which each creative destruction is small and unlearning is bearable. The strategy is better suited to the refining of an idea rather than to the achievement of major breakthroughs. Here is one reason why Japanese companies are able to do so well in the mature stages of a product's life cycle, for example, in appliances, automobiles, and semiconductors.

Japanese organizations tend to foster communications and information collecting which inspire the incremental process of creative destruction, unlearning, and self-renewal. Lower level units in corporations are encouraged to autonomously react to the environment. It is easy to transmit and process nonstandard, exception-oriented information. A sensitivity to information at all levels is inculcated in employees. Employees are trained to be self-motivated. All of these approaches stimulate the free flow of information so necessary for adaptation.

But the modern Japanese corporation, for all its self-renewal, still is related to some extent to the Japanese military organization of fifty years ago. It now faces the same failure born of success problem. Has the Japanese corporation, too, overadapted to its environment? Although the instinctive strategy described above is a good one, it does not foster rapid or radical self-renewal. If the world economic environment continues its dramatic change, the Japanese corporation may be in trouble.

The Japanese army had no concept of withdrawal. Strategy required a hand-to-hand struggle to victory. Nothing was said about retreat. The modern organization in Japan has a similar way of looking at things. The world has admired the way Japanese international marketers attack a new market and hang on tenaciously until they carve out a share. But if the new competitors emerging on the world economic scene get too tough, can the Japanese corporation unlearn old ways and develop withdrawal strategies?

Promotion in Japanese corporations is based on seniority, very much like that of the Japanese military. Thus, one of the two chief tools of creative destruction of equilibrium, new blood, is missing. The other tool, new technologies, will have to do the job by itself.

The Japanese business organization is the result of *uncreative* destruction of the Japanese military organization of World War II. It developed new leaders and new technologies and it evolved a new strategy for adapting to its economic environment. Now, however, it has achieved a level of success parallel to that of its ancestor organization. For its ancestor, the Imperial Army and Navy, that level of adaptation precluded any real chance of adaptability in the future. How will the Japanese corporation fare?

ELEMENTS OF THE JAPANESE MILITARY PARADIGMS

ORGANIZATIONAL ELEMENTS	**NAVY PARADIGM: Battle between warship fleets**	**ARMY PARADIGM: Hand-to-hand battle**
1. Resources	Superiority of individual warships	Greater number of humans
2. Heroes	Admiral Heihachiro Togo Admiral Saneyuki Akiyama	General Maresuke Nogi
3. Organizational structure	Fleet as dominant structure	Separation of soldiers and artillery
4. Control system	Promotion system biased in favor of gunnery	Promotion system biased in favor of infantry
5. Leadership	Embodied in battle between fleets	Embodied in hand-to-hand combat
6. Technology	Big battleship, e.g., *Musashi*, *Yamato*	Light and medium tanks to follow infantry

REGION WATCH

Economic Developments in the Pacific Northwest

National economy still sluggish

With monotonous repetitiveness, the synoptic description of the near-term national outlook has been described by aphorisms such as sluggish, weak, lackluster, or subpar. At this point in a business cycle expansion (now 35 months and middle-aged by historical standards) forecasters are scanning the economic horizon for indications of the next recession. The index of leading indicators, supposedly an early-warning detector of impending cyclical turns, has been mostly upbeat. Another more sensitive forecasting signal, the ratio of leading to coincident indicators, has been on the downside for more than a year. The cyclical situation appears to be in precarious balance. The consensus among private forecasts is that the last half of 1985 will continue to show sluggish (around 3 percent) GNP growth. There is an adage in forecasting that in the late stages of expansion the economy is vulnerable to outside shocks or policy mistakes which, in an earlier phase, might be shrugged off easily. Outside disturbances, a synonym among economists for imponderables, are likely to terminate the stalemate between decisive growth and recession.

A mixed performance

The indicators of Pacific Northwest business activity present a mixed picture. For the opening quarter of 1985, the Pacific Northwest lagged behind weakening national growth on a year-to-year basis, but in a quarter-to-quarter comparison it did better than the national average. There was acceleration in personal income growth in both Oregon and Idaho; however, Washington growth continued to lag behind the other Pacific Northwest states as well as the nation.

More recent indicators for Washington state describe an improving economy. The seasonally adjusted unemployment rate has tumbled (see Table 1), and nonfarm payroll employment gains have been impressive. The turnaround at Boeing continues to keep the manufacturing payrolls expanding despite continued weakness in lumber and wood products, aluminum, and shipbuilding. It is in retail trade and service sectors where Washington job totals continue to pile up. The upswing in Washington employment is still unbalanced: the added jobs are concentrated in Puget Sound, while the unemployment statistics elsewhere are still mostly in double-digits.

In Oregon, the Department of Human Resources (*Oregon Labor Trends*, July 1985) expresses concern about the deteriorating labor market picture in that state. Despite good housing demand nationally, falling interest rates, and stronger lumber and plywood prices, Oregon's wood products employment has declined for five straight months on a seasonally adjusted basis. Nonagricultural payrolls, also seasonally adjusted, have receded from levels reached earlier this year. The much-heralded growth in electronics, assumed to be further stimulated by the recision of the unitary tax last year, must wait for the future. For now, electrical equipment employment is barely holding its own as the overcrowded industry is undergoing a competitive shakeout.

Although Idaho has shown above average personal income gains, and its unemployment rates are currently the lowest in the Pacific Northwest, the near-term prospects are somewhat similar to the darkening mood in Oregon. The outlook for wood products is distressing as high production costs and competition from other regions make production unprofitable. Potlatch Industries, the largest wood products employer in Idaho, recently announced the phaseout of an aging lumber mill in Lewiston, a modern plywood mill in Pierce, and some logging operations. Directly, 850 Potlatch jobs are involved. The impact will be felt by another 400 contract loggers, and indirectly the ripple effects will be substantial. These closures are for an indefinite period, but a spokesperson for the firm emphasizes that this is a short-run adjustment. Potlatch will maintain the facilities in operable condition and views the prospect of eventual reopening optimistically.

As in Oregon and Washington, the electronics industry in Idaho has also suffered from overproduction: Hewlett-Packard recently closed for a week to cut costs and bring its inventories in line with orders. The farm income outlook also looks poor as unfavorable crop prices, declining land values, and even grasshoppers, eat at the small profit margins which Idaho farmers had anticipated. No wonder a lot of farmers are in trouble.

An optimistic long-term view

Our impression of the near-term course of our regional economies can be summarized as modest expansion in Washington, sideways movement in Oregon, and some slippage in Idaho. But crossing from the outlook for the next few months to the next few years, new projections made by the U.S. Department of Commerce are much more sanguine. Writing in the May 1985 *Survey of Current Business*, forecasters project above national average growth in personal income, population, earnings, and employment in all three states and for virtually all major nonfarm sectors in the Pacific Northwest. Since this region has been slow (and tardy) in responding to the national expansion which began late in 1982,

Table 1: Unemployment Rates
Seasonally Adjusted

	JULY 1985*	JULY 1984
WA	8.5%	9.4%
OR	9.5%	9.4%
ID	6.6%	6.0%
US	7.3%	7.5%
	*PRELIMINARY	

Source: State employment security agencies and U.S. Department of Commerce. Data for Idaho not fully comparable to those for other states.

it is encouraging to growth advocates that distant impartial observers see the Pacific Northwest as among the faster-growing regions of the country in the long term.

Readers may recall that the rapid growth during the past decade was fueled by the convergence of a number of major developments: building the Alaska pipeline with Seattle and Portland as the staging area, having five nuclear power plants under construction, building the Trident naval base, and expanding markets for aircraft. These came on top of a housing boom nationally, a series of good years for agriculture, and widening Pacific Rim trade. A reaction to those heady years set in during the 1980s as national and international markets weakened, many Pacific Northwest projects were completed or abandoned, and a period of consolidation and retrenchment began.

Looking ahead, there are a number of large projects in various stages of planning, as well as a multitude of lesser undertakings, which could initiate another growth spurt later this decade and once again put the Pacific Northwest on the fast track. Some of these major projects are speculative and controversial. Let's inventory them briefly.

►The I-90 project, with a $1.1 billion construction bill through the 1980s, will be completed by the early 1990s with the new Mercer Island bridge operational by 1988.

►The RCA-Sharp plant at Camas, Washington involves a $240 million investment in land, buildings, and equipment by 1988; expansion could increase total investment to over $1 billion by the year 2000.

►Enlargement of the locks at the Bonneville Dam on the Columbia River, a $200 million project, will double the lock capacity for barge movements at a significant time/cost savings to shippers.

►The Seattle Convention Center, will accommodate 10,000 conventioneers in a million-square-foot structure, cost $136 million, and open in 1988.

►Portland has plans for a convention center and arena stadium for $170 million.

►A business center near Portland International Airport including a major hotel and shopping center would involve outlays of $125 million over the next seven years.

►The naval base at Everett would cost $300 million for construction by 1988 and employ 9,000 naval personnel and more than 600 civilians.

►Hanford, Washington is a possible site for the federally sponsored Nuclear Waste Repository Facility. Construction costs could total $360 million over a six-year period, with annual operating costs of $162 million.

►An even longer shot is the siting in Washington of the "supercollider," a $6 billion atom smasher which could create 2,000 permanent jobs and have an annual operating budget of $600 million.

Individually, these projects will have significant local impact. Collectively, the direct impacts and their ripple effects will be very large. A conjuncture of improved markets for our basic industries with several of these major projects in the early 1990s could thrust the Pacific Northwest on a high-growth track again, as suggested by the Commerce Department projections.

Unemployment data revisited

In the last issue we published unemployment data provided by the employment security agencies of the three Pacific Northwest states. We have since learned that the particular series published for Idaho is not fully consistent with those of Washington and Oregon due to methodological differences. The series we published for Idaho may be useful for examining changes over time, but to compare states, the adjusted data (shown in Table 2) are preferred. (An alert reader noted an error in the chart accompanying the unemployment data in the last issue. We hope that doesn't happen again.)

Table 2: Unemployment Rates

	WA	OR	ID
1960	6.4%	4.9%	6.0%
1965	5.4%	4.6%	4.8%
1970	9.2%	7.1%	5.8%
1975	9.5%	10.6%	7.3%
1980	7.9%	8.3%	7.9%
1981	9.5%	9.9%	7.6%
1982	12.1%	11.5%	9.8%
1983	11.2%	10.8%	9.8%
1984	9.5%	9.4%	7.2%

Source: U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings*, June 1985

RCA-Sharp plant has costs . . .

In our last issue we mentioned Washington's success in attracting the RCA-Sharp plant to Camas, Washington. It is now apparent from an application to the Washington Community Economic Revitalization Board (CERB) that substantial costs must be incurred by state and local governments in order for the plant to be built. A total projected infrastructure cost of $11.2 million will be required for roads ($5.3 million), an industrial waste pretreatment plant ($1.5 million), a sewer line ($1.8 million), and an electric power transmission line ($2.6 million). The CERB approved loans and grants of $4.9 million to assist the local government agencies in financing these improvements. These substantial costs, as well as deferred taxes, are required to achieve the benefits of a $240 million plant. The initial workforce of 650 in 1988 will require a public sector investment of $17,156 per initial job.

. . . as well as benefits

Indirect benefits resulting from the payroll of the plant's workers will depend on where the workers choose to live and shop. Most of the manufacturing workforce will come from Washington due to commitments by the plant to recruit workers through state training and employee screening programs. However, some of the engineering personnel could come from Oregon. All plant workers will have the option of shopping in Oregon, which currently has no sales tax. The major benefit of the facility may be that it firmly establishes both Washington and Oregon as prime candidates for future high-tech plant sites, with potential sites near Camas for future development.

DSI Options Study finalized

We summarized the draft Direct Service Industry (DSI) Options Study in our last issue. Since then, the Bonneville Power Administration (BPA) has published the final version of the study, with significant revisions to the options considered in the draft. The variable rate option was modified by inserting a broad plateau over which the electricity price does not vary. This modification resulted in higher estimated benefits and reduced costs to BPA. After further analysis of the four options (variable rate, modernization/conservation, increased interruptibility, and service from out-of-region power suppliers), BPA has decided to pursue implementation studies of two options: the variable rate with plateau and BPA funding of plant modernization/conservation.

Worth Reading

Regional studies contribute to our understanding of the Pacific Northwest economy. Some are special-purpose reports with limited exposure. Several are abstracted here to bring them to the attention of our readers.

Strategic Planning for the Employment Security Department

by the Labor Market and Economic Analysis Branch, Employment Security Department, Olympia, WA 98504, March 1985, 55 pp., $5.00.

Peering into the future is a necessary stage of planning. Washington's future (from mid-1985 to mid-1990) is discussed in a report prepared by the Employment Security Department's (ESD) research staff. It is more than an economic projection. It is a broad-ranging discussion of the prospective economic-demographic-social-political-technical climate which is in our near future.

In capsule form, the ESD analysts foresee diversification of the state's economic base, an expanding services and information sector, the capital goods "shakeout," and more gradual and conservative hiring practices in aerospace. The state's industrial mix will reflect fast growth in services, trade, and construction, but slow growth in manufacturing, especially lumber and wood products. Aerospace will grow slowly, but steadily, and without severe setbacks. Labor force growth, along with population growth, will be slower through 1995 than in the 1960s and 1970s.

The report forecasts that population growth rates will become slower, but the most notable demographic change will be in age distribution: fewer young adults, more senior citizens, and overcrowding in the prime labor force age group. Interesting changes are foreseen concerning the ethnicity of Washington's population; Hispanics will become the largest minority group.

Communications technology will undergo dramatic transformation. Just as the U.S. Postal Service has become overtaken by telephone communications, so will both become overshadowed by a system of interconnected microcomputers in office, factory, and home. The report observes that the information sharing society will soon have profound effects upon the industrial structure of Washington state, the occupational distribution of its population, working conditions, and labor/management relationships. Many of these changes are for the good, but along with change comes stress. The pains of computer illiteracy are likely to lengthen the distance between those who are tuned in and those who are left out.

The discussion is set specifically in the context of the imminent changes facing Washington state. It is easily readable and immediately applicable to private sector business planning.

Recent Economic Trends in Region X

An EPA Memorandum by Robert Coughlin, U.S. Environmental Protection Agency, Region X, 1200 Sixth Ave., Seattle, WA 98101, May 7, 1985, 47 pp., no charge.

This draft discussion piece assesses economic trends from 1929 to 1983 in the Pacific Northwest. It traces the twisting path of economic development based on a shift-share analysis. A state-by-state analysis of Pacific Northwest personal income trends is provided. The extensive tables and statistical detail are tiresome, but interesting generalizations and speculation concerning future growth prospects are sprinkled throughout.

The author's main thesis is that the industry shifts which have occurred are the product of evolutionary economic forces which have progressed in directions that reduce the comparative advantage enjoyed by the region. Idaho is now more than ever dependent upon agriculture; Oregon's dependence upon manufacturing has increased, running counter to national trends; and Washington's economic performance, noticeably superior to its neighbors, is described as "simply growth steadily larger."

From the analysis of past and current trends, the report draws the following conclusions.

- ► The decline in Pacific Northwest real per capita income *relative to the United States* is due to above normal population growth, not economic stagnation.
- ► Its future economic stability may be even less than in the past, despite the less dominant role of the forest product industries. (In the longer term, the Pacific Northwest will recover its prime position in wood products.)
- ► High-tech industries are one of the sources of strength, especially in Oregon and Washington.
- ► The evolution of energy production and energy-intensive industries are the least favorable component for future growth.
- ► The most optimistic element is the expansion of Trans-Pacific trade.

This is useful reading for regional analysts in the Pacific Northwest, especially for those who have not studied the succession of growth spurts which have occurred over the past fifty years.

The Service Economy:
Export of Services in the Central Puget Sound Region

by the Central Puget Sound Economic Development District, 216 First Ave. S., Seattle, WA 98104, April 1985, 140 pp., $10.00.

This study, prepared under the direction of the University of Washington geographer William B. Beyers, examines the role of the services sector as a generator of economic growth. Traditional regional economic analysis has viewed the service industries as dependent or responsive to growth in export sectors, such as agriculture and manufacturing. But as employment in the exporting sectors of regions contracts, does this mean that the base upon which service sector employment depends will also?

This report argues that the services industries themselves significantly engage in interregional trade, and contribute to the export base of regions. Based on interviews with service firms in the Puget Sound region (King, Snohomish, Pierce, and Kitsap counties) the authors estimate that more than one-third of their employment is directly related to exports.

An important implication is that the traditional basic/nonbasic dichotomy, once so easily applied to regional growth, needs to be reformulated. Since service industries contribute significantly to the export base, the decline of manufacturing jobs in urban areas may not carry with it the ominous implications once thought. This report should be of interest to regional planners and urban economists.

The Declining Numbers of Family Wage Jobs:
A Threat to Oregon's Economic Health?

A Staff Report by the Oregon Joint Legislative Committee on Trade and Economic Development, Room H-197, State Capitol, Salem, OR 97310, July 1984, 16 pp., no charge.

If the Beyers report (above) portrays the positive contribution of the service industry toward job creation, the Oregon study notes with alarm that the shift to services represents a deterioration in the quality of jobs. Good jobs are important to families, but the bulk of new jobs created in Oregon so far this decade have been in industries or occupations which pay less than a family wage (defined as about $20,000 per year). The recovery from the 1980–82 recessionary period in Oregon has been propelled chiefly by service/retail sectors which pay low wages, hire many part-time employees, and have a high proportion of low-skill, dead-end jobs.

One-wage-earner families have traditionally made up the majority of Oregon households, but the current decline in the quality of jobs means fewer Oregonians now have the income needed to support an average family. Moreover, low-quality jobs present the least opportunity for advancement. Just at the time when the doors of opportunity are opening for women and minorities, the good jobs are disappearing.

This biting report is useful in exposing an important problem for state policy makers. And not just for Oregon.

Agriculture in the Pacific Northwest

When Washington and Idaho were admitted to statehood in 1889 and 1890, respectively, 40 percent of the Pacific Northwest population lived on farms, and agriculture was indisputedly the principal economic base of the region. Since then, unremitting technological change, increasing capital investment (public and private), and improved management techniques have produced persistent improvements in agricultural productivity and reduced labor requirements. Concurrently, the industrial base of the region broadened and opened up more remunerative employment opportunities in other industries. Consequently, the proportion of the population living on farms declined rapidly. Even the *number* of persons living on farms has declined since 1940 (see Figure 1). Farming is no longer the dominant occupation it once was in the Pacific Northwest.

Although the farm population has been shrinking, agriculture is still a vitally important sector in the economies of Idaho, Oregon, and Washington, producing crops, animals, and dairy products in greater abundance than ever. For many communities, farming is still the premier economic base. Agricultural linkages to manufacturing, transportation, and trade continue to make the success of farming of great importance to the nonfarm population as well.

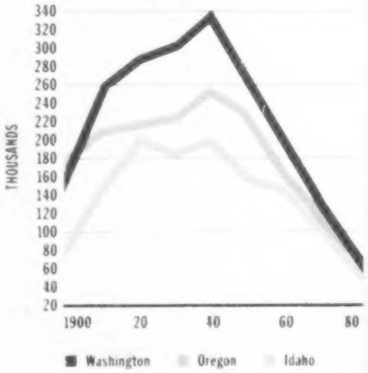
For most of the present century, the land area of the Pacific Northwest devoted to farming increased, but total farm acreage declined during the past two decades in response to pressures of urbanization and intensive cultivation. Today, about 48 million acres, or 30 percent of the land area of the Pacific Northwest, is devoted to farms. Farm sizes (acreage) have been trending upward, mainly due to a decrease in the number of farm units. Interestingly, between the 1978 and 1982 agricultural censuses, the number of farms increased and acres per farm decreased. This increase in farm units occurred primarily in the very smallest (1 to 49 acres) size class. Perhaps this reflects a revival of interest in family farming, part-time pursuits, or tax shelters.

Farming is an activity which almost defies generalization. A farm, as defined by the U.S. Department of Agriculture (USDA), is "any place from which $1,000 or more of agricultural products were sold or normally would have been sold during the census year." The 100,000 farms in the Pacific Northwest vary widely in size. They specialize in assorted products from bee production to wheat. They have widely divergent forms of management and ownership. Most of them are family-owned, but more than half of the farm operators do not claim farming as their principal occupation.

Census statistics tell us that the average farm in the Pacific Northwest has around 500 acres of land, yet most farms are less than 50 acres. A relatively few giant farms bring up the average size. The average farm involves an investment of about $500,000 — most of it in real estate (land and buildings) — with an average debt/asset ratio of 23 percent. According to the USDA, the average Pacific Northwest farm had a gross income of about $80,000 and a net income of about $17,000 in 1984. The rate of return on invested capital is low compared to that of other industries.

Averages may be quite misleading. While most farms are less than 50 acres, there are giant farms of more than 5,000 acres in the Pacific Northwest. In Washington there are 486 such farms which average 14,473 acres and account for 43 percent of the total farm lands in the state. In Oregon the 710 largest farms average 14,430 acres and account for 58 percent of the total acres in farming. In Idaho 367 giant farms average 13,280 acres and account for 35 percent of total farm land area. In the Pacific Northwest, about 46 percent of the farm acreage is accounted for by 1.5 percent of the farms. Nor are these giant farms independent; some are under the same ownership and operate under the term "agribusiness."

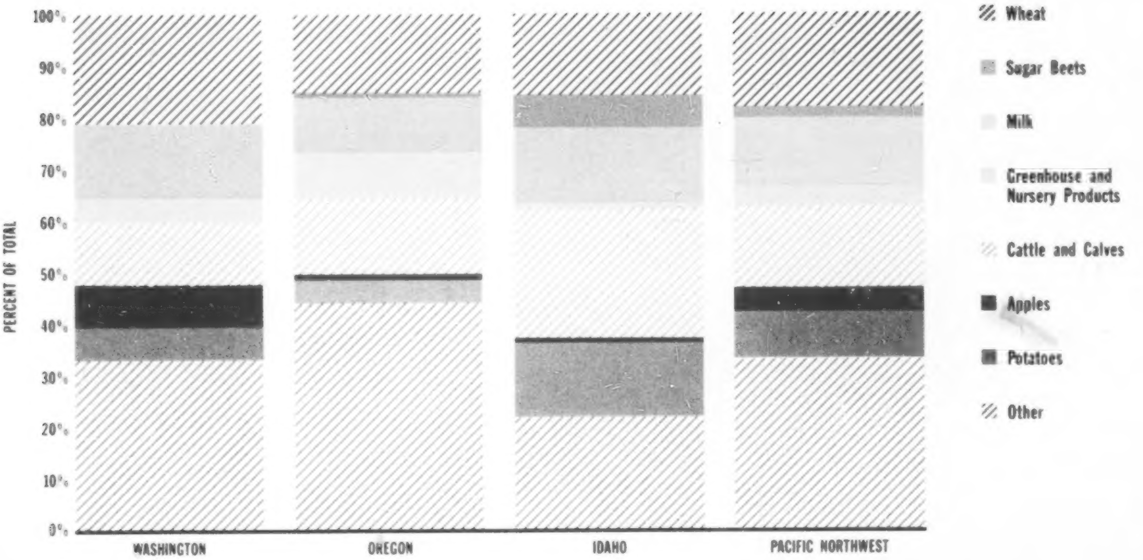
Figure 1: Farm Population



Agricultural Products

Agriculture in the Pacific Northwest is an extraordinarily diverse industry. Many different crop and animal products are produced. However, a few of these products account for a large proportion of the income, exports, and dynamics of this economic sector. There are seven products which are most crucial to the Pacific Northwest: wheat, cattle and calves, milk, potatoes, apples, greenhouse and nursery products, and sugar beets. Total cash receipts from these seven products in 1983 were $4.5 billion, 66 percent of the total cash receipts of $6.8 billion from all agricultural commodities in the Pacific Northwest in 1983. Figure 2 shows the proportion of total cash receipts accounted for by these seven products. Wheat is the most valuable regional product, with total cash receipts in 1983 of $1.2 billion, 18 percent of the total. Cattle and calves accounted for 17 percent of total cash receipts, and milk products for 14 percent; together these animal-related commodities accounted for $2 billion of cash receipts to the region's farmers. Potatoes accounted for 8.5 percent of total cash receipts, about $578 million. One of Washington's well known export crops, apples, contributed $295 million in cash receipts, 4 percent of the total. Greenhouse and nursery products, an important sector in Oregon and to a lesser ex-

Figure 2: Cash Receipts for Selected Commodities, 1983



tent in Washington, contributed over $250 million in regional cash receipts, about 4 percent of the total. Finally, sugar beets, once grown commercially in all three states but now mainly in Idaho, accounted for cash receipts of $140 million, over 2 percent of the total.

The importance of these products varies from state to state (see Figure 2). Wheat, milk, and apples stand out as especially important in Washington because the percentage contribution of these commodities to Washington's cash receipts exceeds the regional percentages. Cattle and calves are also large contributors to Washington's cash receipts, although the percentage from this sector is less than for the region as a whole. In Oregon only the greenhouse and nursery products percentage exceeds the regional percentages. Portland, the "City of Roses," derives its symbol from a major nursery crop. Wheat, milk, and cattle and calves are large contributors to Oregon's cash receipts as well. The miscellaneous "other" category is very large in Oregon, a tribute to the diversity of Oregon's agriculture. In Idaho, cattle and calves, milk, potatoes, and sugar beets are the premier crops with percentage contributions to cash receipts exceeding the regional percentages. Wheat is also a big source of cash receipts, although not proportionately as large as it is regionally.

Two elements bind the region together. Wheat is an important crop in all three states. The animal-related sectors of cattle and calves and milk products are also strong constants throughout the region. Other products are of particular importance to only one or two of the three states: apples in Washington, potatoes and sugar beets in Idaho, and greenhouse and nursery products in Oregon.

Other products are of interest even though they earn smaller cash receipts than the top seven products in the region. Asparagus production in Washington has nearly tripled its share of national production in the last twenty years, now accounting for about a third of the nation's output. Asparagus is a high value crop which is distributed nationwide. Cherries and pears are traditional fruit crops in Washington, providing nearly $75 million in gross income in 1983.

Grapes are fascinating because of the rapid growth of wine grape plantings and the accompanying growth of outstanding vintners in all three states. Oregon and Washington have had a number of wineries since the end of Prohibition in the 1930s; Idaho only recently entered the industry. Production of wine grapes has expanded in all three states. Washington's grape production grew at an annual rate of 5.9 percent from 1975 to 1984. However, wine grapes accounted for just 13 percent of Washington's grape production in 1983. The bulk of grape production consists of Concord grapes used for juice products.

Several smaller crops are intriguing because a very large proportion of total U.S. production comes from this region. Over 60 percent of U.S. production of dry edible peas and over 75 percent of U.S. lentil production comes from the Pacific Northwest. Most of this production is exported to developing countries where legumes are an important element of the diet. About 20,000 acres of Washington's agricultural land is devoted to spearmint and peppermint, providing approximately two-thirds of the nation's spearmint production and about one-fifth of its peppermint production.

Characteristics of Agriculture and Related Industries

The agriculture industry is made up of many production units spread throughout Washington, Oregon, and Idaho (see Table 1). Much of the land is used as rangeland and pasture for livestock, or is not in active production. About 13.5 of the 48 million acres of Pacific Northwest farmland is harvested cropland, and about half of the cropland is irrigated.

Employment Trends. Substantial labor inputs are needed to operate the Pacific Northwest's 100,000 agricultural enterprises. About half of these farm establishments required hired farm labor, providing over 370,000 (mostly seasonal) jobs in 1982. The number of full-time employees in agriculture has increased over the years in the Pacific Northwest from 22,386 in 1959 to 59,494 in 1982, while seasonal jobs have declined.

Income Trends. Personal income trends in the agricultural sector as reported by the BEA are shown in Figures 3 and 4. Farm income in the Pacific Northwest took a big jump upwards in 1973 following very modest increases in the 1960s. Much of this increase was due to sharp increases in the price of wheat in 1973 and 1974. The price received for Washington wheat in 1972 was $2.04 per bushel; in 1973 it was $4.89; and in 1974 it was $4.31. Thereafter, wheat prices declined to less than $3.00 per bushel, and in 1983 the price was about $3.50. This price fluctuation was primarily due to huge Soviet grain purchases in 1973 and 1974. Farm income declined from 1975 to 1977, followed by growth from 1978 through 1982.

Farm income has often lagged behind other income producing sectors. From 1958 to 1973 farm income declined as a percentage of total state income in Washington and Oregon, followed by an upsurge in the middle 1970s, and then a return to the familiar pattern of slow decline relative to the rest of the economy. Farm income is a much bigger percentage of total income in Idaho. In 1982, Idaho farm income was 5 percent of the state's personal income, compared to about 2 percent in Oregon and Washington.

Farm Profitability. The viability of the agricultural sector depends on its ability to produce profitably. In recent years farm profitability has been squeezed nationwide by increases in the prices paid by farmers relative to the prices they receive for goods sold. Table 2 shows indexes of prices paid and prices received by all U.S. farmers over the last twenty-five years. Prices received have risen over 250 percent since 1960, but prices paid have risen 376 percent. This squeeze either reduces profits or eats up any gains due to productivity advances. An index is available for Oregon showing even slower growth in prices received than in the United States as a whole.

Table 1: Characteristics of Agriculture Industry, 1982

[illegible]	[illegible]	[illegible]	[illegible]
No. of farms	39,000	37,000	24,200
No. of farms with hired labor	17,487	13,024	12,120
No. of farm workers (mostly seasonal)	256,914	136,672	78,350
[illegible]			
Farmland	16.5	17.7	13.9
Harvested cropland	5.3	3.3	4.9
Irrigated land	1.6	1.8	3.4
Total land area of the state	43.6	62.1	53.4
[illegible]			
Farm payroll	$313.1	$179.5	$147.6
Farm income	$1,136.1	$525.7	$457.7

[illegible]

Balance Sheets. Pacific Northwest farmers operated nearly 100,000 farms in 1983, using total assets of nearly $49 billion according to the USDA's farm indicators. Nearly 74 percent of these assets were accounted for by real estate, with the remainder due to buildings, livestock, inventory, and financial assets. The value of farmland rose sharply in the 1970s, contributing to a positive balance sheet for many farmers. However, farmland has dropped in value by $20 to $100 per acre in the last year, placing additional stress on farm finances. Total farm debt in the Pacific Northwest amounted to $11 billion in 1983, with real estate debt accounting for 60 percent of the total. The average debt/equity ratio for all farmers in the three states was 29.3 percent, and the debt/asset ratio was 22.7 percent.

Impact on the Rest of the Economy. Agriculture directly impacts the rest of the economy in two ways: through the purchases it makes from other industries, and as a source of supply to other producers. The total market value of agricultural commodities produced in the Northwest in 1982 was $6.7 billion. Of this amount, about $3.34

Figure 3: Farm Personal Income

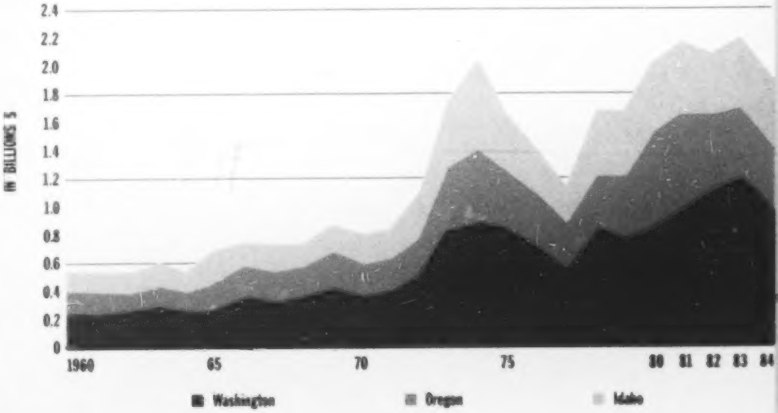


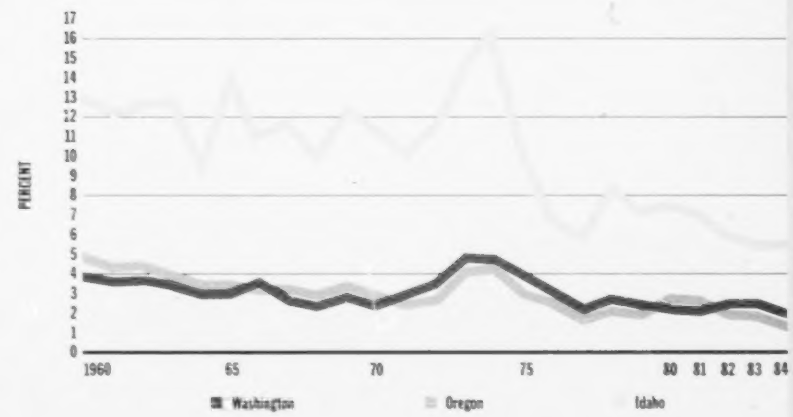
Table 2: Prices Paid and Received by Farmers

1910 to 1914 = 100

	INDEX OF PRICES PAID	INDEX OF PRICES RECEIVED	
[illegible]	[illegible]	[illegible]	[illegible]
1960	300	239	218
1965	322	245	220
1970	382	274	250
1975	613	463	422
1980	948	614	551
1981	1035	633	562
1982	1078	609	539
1983	1104	614	533
1984	1127	649	559

[illegible]

Figure 4: Farm Income as Percent of State Personal Income



billion was spent on goods and services needed in the production process (see Table 3). These intermediate inputs included feed (23 percent), fertilizer and other agricultural chemicals (19 percent), interest on borrowed funds (18 percent), hired farm labor (17 percent), and energy of all forms (16 percent). Some of these purchases were probably made from out-of-region suppliers, including some portion of those for fertilizer and chemicals, interest, and nonelectrical energy. Other purchases were probably made from regional suppliers, such as most of those for feed, farm labor, and electrical energy. While the out-of-region purchases represent regional income "leakages," the within-region purchases provided additional income to the suppliers.

Table 3: Agriculture Sector Purchases from Other Industries, 1982

in thousands of dollars

[illegible]	[illegible]	[illegible]	[illegible]
Feed	**348,833**	**193,064**	**233,142**
Seeds, bulbs, plants, trees	55,597	32,601	58,732
Commercial fertilizer	**174,198**	**104,674**	**160,602**
Other agricultural chemicals	102,290	56,739	52,652
Energy and petroleum	**171,193**	**179,512**	**171,675**
Gasoline and gasohol	56,718	44,142	56,310
Diesel fuel	**54,159**	**33,086**	**23,390**
LP gas, butane, propane	3,399	2,166	3,224
Fuel oil, kerosene	**1,566**	**1,623**	**647**
Natural gas	2,659	3,237	572
Motor oil and grease	**8,110**	**5,605**	**7,532**
Electricity	44,115	30,206	52,269
Other (wood, coal, coke)	**1,068**	**981**	**877**
Hired farm labor	313,100	121,046	147,854
Contract labor	**33,501**	**14,696**	**18,733**
Interest expense	241,997	NA	218,310

[illegible]

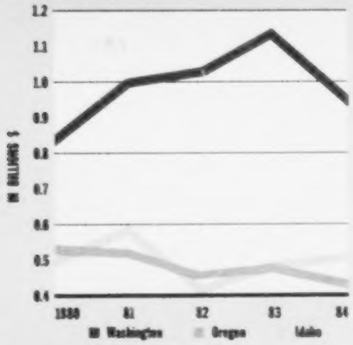
Food processing industries in the region are dependent on agriculture for their raw materials. Meat products, dairy products, canning, grain milling, beverages, and other processing sectors use extensive quantities of goods produced within the region. Without the agriculture sector to provide local supplies, these industries would not be present in the Northwest. Using coefficients from the Washington state input–output table as estimators of the amount of regional agricultural product which is sold to processors in the region, we estimate that nearly $2 billion of output was sold to processors in 1982. This was approximately 30 percent of the total market value of regional agricultural output in 1982, while most of the remainder was shipped to commodity markets outside the region.

Agricultural Exports

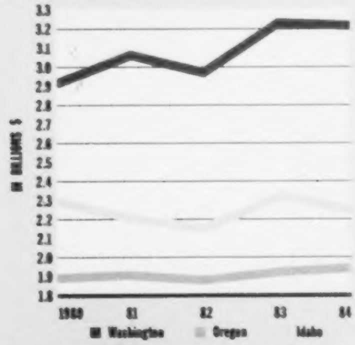
Foreign export markets are very important for Pacific Northwest agriculture. Precise data on exports is difficult to assemble, however, because the only available data are total exports from customs districts in each state, without any adjustment to net out exports which are produced in another state. For major international ports such as Portland, Seattle, and Tacoma, many commod-

Pacific Northwest Agricultural Production Indicators[1]

FARM PERSONAL INCOME

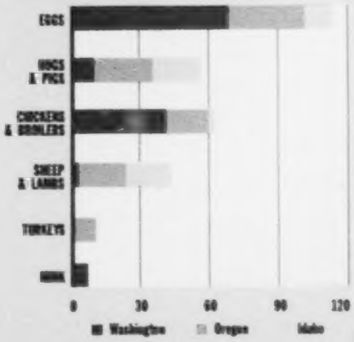


AGRICULTURAL PRODUCTION



SELECTED LIVESTOCK,[7] 1984

In millions $



NUMBER OF FARMS[2]

YEAR	WA	OR	ID
1960	56000	47000	36300
1965	48500	43000	31200
1970	41000	34500	28500
1975	34000	30000	24100
1980	38000	35000	24400
1981	39500	36500	24100
1982	39000	37000	24200
1983	38000	37500	24400
1984	38000	37000	24600

TOTAL VALUE OF PRODUCTION

In millions $

YEAR	WA	OR	ID
1960	612	450	516
1965	703	495	556
1970	892	614	723
1975	1994	1179	1442
1980	2948	1934	2322
1981	3095	1923	2213
1982	2980	1865	2180
1983	3252	1942	2323
1984	3229	1968	2269

FARM PERSONAL INCOME[3]

In millions $

YEAR	WA	OR	ID
1960	268	185	159
1965	288	186	238
1970	356	227	274
1975	866	390	434
1980	858	540	518
1981	1009	542	605
1982	1056	471	417
1983	1153	493	492
1984	972	446	528

TOTAL VALUE OF LIVESTOCK & LIVESTOCK PRODUCTS

In millions $

YEAR	WA	OR	ID
1960	224	191	165
1965	235	186	175
1970	306	254	269
1975	454	321	386
1980	811	565	759
1981	882	605	775
1982	892	568	730
1983	922	564	735
1984	935	569	728

VALUE OF CATTLE & CALVES

In millions $

YEAR	WA	OR	ID
1960	68	82	87
1965	76	92	100
1970	113	141	168
1975	132	155	231
1980	311	312	483
1981	321	323	450
1982	335	280	400
1983	331	273	396
1984	340	277	405

VALUE OF MILK

In millions $

YEAR	WA	OR	ID
1960	85	53	57
1965	87	47	52
1970	125	59	73
1975	213	92	127
1980	383	158	240
1981	417	173	280
1982	440	184	290
1983	476	194	298
1984	463	186	281

TOTAL VALUE[5] OF FIELD CROPS

In millions $

YEAR	WA	OR	ID
1960	251	152	343
1965	295	154	365
1970	378	171	436
1975	1077	533	1017
1980	1432	743	1511
1981	1413	671	1371
1982	1356	696	1400
1983	1485	720	1521
1984	1451	716	1489 est.

VALUE AND PRODUCTION OF WHEAT

In thousands of bushels and millions $

	WA		OR		ID	
YEAR	Bushels	Value	Bushels	Value	Bushels	Value
1960	65102	117	26626	48	34018	57
1965	90828	121	28399	39	47973	62
1970	92800	137	26717	39	41582	58
1975	147880	553	58040	219	63220	215
1980	160220	638	77400	308	96030	351
1981	168350	660	74330	285	89780	325
1982	138880	561	63500	255	94200	357
1983	172570	637	65570	242	91710	317
1984	160350	545	60945	238	81400	265

VALUE OF SUGAR BEETS

In millions $

YEAR	ID
1960	20
1965	37
1970	48
1975	73
1980	152
1981	122
1982	118
1983	141
1984	NA

TOTAL VALUE OF FRUIT & NUT CROPS

In millions $

YEAR	WA	OR	ID
1960	87	42	5
1965	98	57	8
1970	122	61	7
1975	222	76	13
1980	387	126	27
1981	461	129	26
1982	417	142	30
1983	529	134	27
1984	522	127	28

VALUE AND PRODUCTION OF APPLES *In millions $*

	WA	
YEAR	1000 tons	Value
1960	485	53
1965	618	69
1970	696	70
1975	1100	134
1980	1503	248
1981	1380	302
1982	1308	253
1983	1528	349
1984	1475	332

VALUE OF PEARS

In millions $

YEAR	WA	OR
1960	8	10
1965	10	18
1970	19	11
1975	30	24
1980	55	38
1981	55	36
1982	52	37
1983	49	33
1984	56	40

VALUE OF CHERRIES

In millions $

YEAR	WA
1960	5
1965	1
1970	10
1975	20
1980	30
1981	41
1982	38
1983	56
1984	41

VALUE OF BERRIES

In millions $

YEAR	OR
1960	16
1965	21
1970	22
1975	19
1980	31
1981	35
1982	48
1983	53
1984	45

NOTES:

[1] Unless otherwise noted, figures are those of the Crop and Livestock Reporting Services of Washington, Oregon and Idaho. We thank the personnel of those offices for their efforts to provide us with data. Values of production are listed in millions of dollars. Readers should be aware that some numbers are subject to revision. The term "NA" means that those numbers were not available.

[2] In 1975, the definition of a farm was changed to include places with agricultural sales of $1,000 or more.

[3] Bureau of Economic Analysis, U.S. Department of Commerce.

[4] U.S. Department of Agriculture.

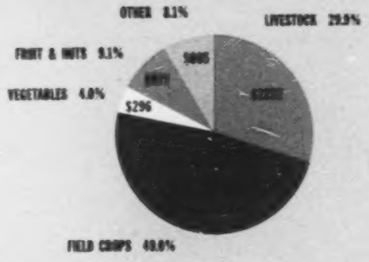
[5] The total value of Idaho's field crops in 1984 is estimated by assuming that the value of beet production in 1984 is $100 million.

[6] Department of Agricultural and Resource Economics, Oregon State University. Figures prior to 1980 do not include the value of bulbs, turf, and miscellaneous specialty products.

[7] Value of production not available for all states.

YEAR	GOVERNMENT[4] PAYMENTS *In millions $*			AVERAGE NET INCOME[4] PER FARM *In $*			VALUE OF FARM ASSETS[4] Including households *In millions $*			RATIO OF[4] PRICES RECEIVED TO PRICES PAID *United States 1977 = 100*
	WA	OR	ID	WA	OR	ID	WA	OR	ID	
1960	10	9	13	3537	2770	3377	NA	NA	NA	118
1965	40	24	29	4235	2555	5407	NA	NA	NA	115
1970	58	23	48	5964	4351	7394	NA	NA	NA	109
1975	7	5	9	24566	10826	13401	7763	6438	7286	113
1980	9	6	8	14385	12133	18437	15660	13355	13917	97
1981	37	19	30	20894	11417	20719	18255	14666	14927	93
1982	77	31	52	20239	7718	11257	18928	14793	15353	85
1983	159	67	136	25963	9647	15220	19183	14391	14600	84
1984	171	76	132	NA	NA	NA	19778	14377	14736	87

AGRICULTURAL PRODUCTION, 1984
Pacific Northwest, in millions $

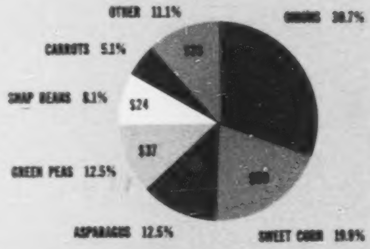


YEAR	RATIO OF FARM DEBT[4] TO ASSETS *In percent*			TOTAL VALUE OF VEGETABLE CROPS *In millions $*		
	WA	OR	ID	WA	OR	ID
1960	NA	NA	NA	25	28	3
1965	NA	NA	NA	41	38	8
1970	NA	NA	NA	42	41	11
1975	18.0	19.5	20.1	94	93	26
1980	18.5	19.8	20.3	116	126	25
1981	17.5	20.4	20.4	135	131	44
1982	19.2	22.7	22.3	145	97	27
1983	20.5	24.2	24.6	138	130	40
1984	20.2	24.2	24.5	143	129	24

VALUE OF SELECTED VEGETABLES FOR 1984
In millions $

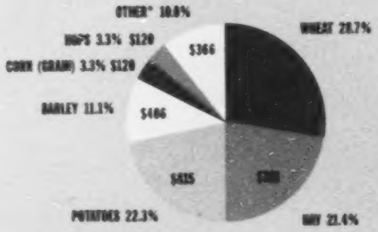
	WA	OR
Onions	17	59
Sweet Corn	21	29
Asparagus	37	NA
Green Peas	27	10
Snap Beans	1	23
Carrots	11	4
Cauliflower	NA	8
Mushrooms	5	NA
Broccoli	NA	4

VEGETABLE PRODUCTION, 1984
Pacific Northwest, in millions $



YEAR	VALUE OF POTATOES *In millions $*			VALUE OF BARLEY *In millions $*			VALUE OF HOPS *In millions $*		
	WA	OR	ID	WA	OR	ID	WA	OR	ID
1960	19	19	79	21	17	15	11	3	3
1965	29	18	119	16	18	24	16	3	3
1970	51	27	144	20	19	40	17	4	3
1975	152	78	294	50	23	97	31	8	5
1980	193	91	451	94	30	172	86	17	8
1981	209	97	402	110	31	171	89	18	9
1982	198	82	321	110	38	191	93	26	16
1983	230	96	447	140	43	185	92	22	16
1984	265	105	446	147	42	217	87	17	16

FIELD CROPS, 1984
Pacific Northwest, in millions $



*Does not include Idaho sugar beets

YEAR	VALUE OF GREENHOUSE & NURSERY PRODUCTS *In millions $*	
	WA	OR[6]
1960	NA	16
1965	NA	20
1970	NA	29
1975	NA	50
1980	90	133
1981	97	138
1982	96	133
1983	100	150
1984	100	159

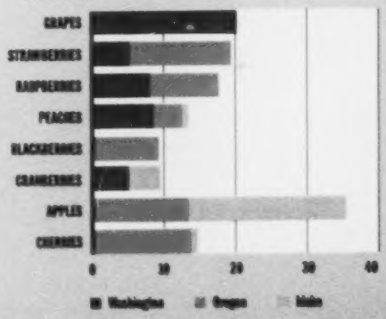
VALUE OF OTHER FIELD CROPS 1984
In millions $

	WA	OR	ID
Hay	225	224	332
Corn (Grain)	74	20	26
Corn (Silage)	26	NA	NA
All Seed & Grass	NA	83	NA
Mint	26	26	6
Dry Beans	12	NA	36
Oats	4	12	5
Dry Peas	15	NA	NA
Lentils	13	NA	NA

VALUE OF SELECTED FRUIT & NUT CROPS 1984
In millions $

	WA	OR
Grapes	21	NA
Strawberries	5	15
Raspberries	8	10
Peaches	9	4
Blackberries	NA	10
Filberts	0.15	8
Cranberries	5	5
Prunes	3	2
Blueberries	2	2

SELECTED FRUIT CROPS,[7] 1984
In millions $



ities are brought in from other states to be loaded onto ships for export. For example, midwestern corn is shipped from Pacific Northwest ports. Much of Idaho's exports are counted in the Oregon and Washington statistics. About half of Washington's wheat is barged down the Columbia and exported from Oregon ports. On the other hand, the vegetable and fruit export data are probably more accurate reflections of each state's production since little is brought in from other states for export.

Exports of agricultural products constitute about 20 percent of the value of all exports from the state of Washington according to a 1984 Department of Trade and Economic Development study which tried to net out production from other states. Only a small proportion of agricultural exports are shipped in the form of processed food products; in Washington, processed food exports are only one-eighth of the value of agricultural exports to other countries.

Wheat is the principal foreign export crop for all of the Pacific Northwest states. About 56 percent of the value of Washington's agricultural exports is made up of wheat, as is 54 percent of Idaho's and 68 percent of Oregon's. Vegetables and vegetable products are the second most valuable product class in Idaho and Washington, and the third most valuable product class in Oregon. Potato products, such as french fries and other frozen potato products, account for much of the value of vegetable exports from this region. Fruit, principally apples, is the third most valuable agricultural crop exported abroad from Washington, while the "other" category is the third most valuable product class in Idaho and the second most valuable in Oregon.

Foreign exports of agricultural commodities from Pacific Northwest ports grew rapidly through the 1970s. Since 1981, the strong dollar has adversely affected agricultural exports (see Figure 5), as it has manufacturing exports. With other world economies picking up, agricultural exports did grow in 1984.

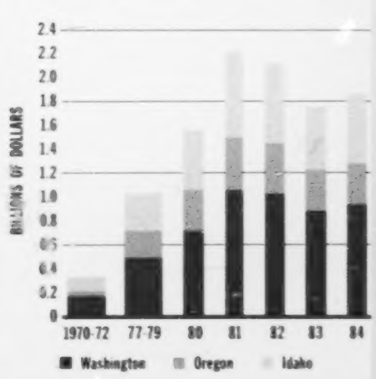
While agricultural exports from the Pacific Northwest have grown over time, they have remained remarkably constant as a percentage of total U.S. agricultural exports to foreign countries. Washington, Oregon, and Idaho accounted for about 4 percent of U.S. agricultural exports in the 1970s, and since 1981 they have accounted for about 5 percent of the U.S. total (see Table 4). The Northwest is a major source of U.S. exports of vegetables (29 percent), wheat (16 percent), and fruits (11 percent), as well as smaller percentages of other commodities.

Table 4: Pacific Northwest Agricultural Exports, 1984
As percent of U.S. agricultural exports

COMMODITY GROUP	WA	OR	ID	PNW
Wheat and products	7.47	3.50	4.80	15.77
Feed grains and products	0.45	0.00	0.45	0.90
Fruits and preparations	8.68	1.78	0.37	10.83
Nuts and preparations	0.00	1.05	0.00	1.05
Vegetables and preparations	14.11	3.79	11.27	29.16
Live animals and meat	1.78	0.32	1.43	3.53
Hides and skins	2.43	0.29	1.95	4.69
Poultry and products	0.61	0.12	0.05	0.78
Fats, oils, and greases	2.73	0.33	2.18	5.23
Dairy products	1.50	0.53	2.04	4.07
Other	1.33	1.58	2.25	5.16
TOTAL	2.40	0.93	1.59	4.91

Source: Calculated from data in U.S. Department of Agriculture, Foreign Agricultural Trade of the United States

Figure 5: Agricultural Exports



Technological and Infrastructure Changes

Several technological and infrastructure developments are changing how agricultural products are produced and transported. Microcomputers are making more precise farm management practices possible through more detailed land management records, crop budgeting programs, quicker access to weather information, and improved access to expert advice. For example, it is now feasible to track all inputs and outputs from each farm field using a microcomputer database program, making microadjustments to improve productivity possible. In the future, electronic auctions for agricultural products may be organized in the Northwest, using computers linked by modems to a central processing unit. Such electronic marketing systems are in use in other parts of this country, as well as in Canada.

Agricultural research continues at the region's universities, with work underway on wine production and apple storage technology, and on tilling practices. Hybrid seed development continues at both universities and seed companies, with improvements in corn yields continuing. In other regions of the country, work is underway on potato hybrids which could undercut the traditional advantage of Pacific Northwest potato producers in the fresh potato market.

Energy price increases have encouraged the use of more energy efficient equipment and motivated dramatic changes in cultivation practices. Minimum tillage systems are being tried for several crops, including grains and corn. Drip irrigation systems are being developed to conserve on water pumping costs. Some farmers have returned to dryland farming because of increased energy costs to pump irrigation water.

Meanwhile, several major infrastructure projects will have substantial impacts on Pacific Northwest agriculture. The mouth of the Columbia has been deepened, permitting larger, deeper draft vessels to enter the river to serve ports such as Portland. Transportation costs for bulk commodities such as wheat are expected to be reduced by this improvement. The smallest lock on the Columbia River system is due to be expanded, although federal funding will not be provided until fiscal year 1987. This expansion will permit barge tows to go through all of the locks as a unit, rather than disassembling the tow and taking individual barges through separately. This expansion is expected to result in lower barge rates on the river. Much of the region's grain output is barged down the Columbia River and loaded onto ships for export markets, making this improvement very significant. There has been discussion of plans to take over abandoned rail lines serving Eastern Washington and Central Idaho. Formation of a rail utility to provide service to communities in all three states is one possibility under discussion. Preserving rail service is important in holding down transportation costs and in preventing excessive highway maintenance costs associated with truck transport.

Outlook for Major Crops

Short-term Outlook. The short-term outlook for the region is affected by several factors including generally weak prices for farm products, continued high interest rates, and the build-up of inventories by the nation's farmers. Two of the most important factors are the value of the dollar and the vagaries of the weather.

The dollar has been extraordinarily strong relative to other currencies since 1981. According to the USDA, the strength of the dollar has made it difficult to expand exports of wheat and other commodities. One consequence is that substantial inventories of wheat from the previous harvest are being stored all across the country, reflecting the difficulties U.S. wheat producers are experiencing in finding foreign markets. In recent months, the dollar has declined about 15 percent relative to other currencies, raising hopes for increased export sales of wheat and other agricultural commodities in the future.

The weather has not been cooperating. Rainfall has been sparse throughout much of the Pacific Northwest, reducing the yield from winter wheat plantings. According to the USDA, Pacific Northwest winter wheat production in 1985 may fall 10 to 15 percent relative to 1984. A severe frost late in April caused widespread damage to fruit crops in Washington. In the Yakima Valley, damage estimates for individual farmers range from 25 to 70 percent of such crops as wine grapes, apples, and cherries. With the dry weather, grasshoppers have been a major problem for Idaho farmers. Extensive spraying has been conducted during the summer to combat the infestation.

Long-term Outlook. In the long-term, prospects for the region's agriculture industry depend critically on success in exporting products to the Pacific Basin and other countries. According to Professor A. Desmond O'Rourke of the Department of Agricultural Economics at Washington State University, export markets in developing countries have more growth potential for many agricultural products than do the domestic markets. Domestic markets for agricultural products expand only modestly as income rises, but in developing countries income increases often result in increased consumption of food products.

About 90 percent of the region's wheat output is exported to Asia and the Middle East. The Washington Wheat Commission notes that our farmers compete with soft red wheat producers in the Gulf states of the United States, as well as white wheat growers in Australia. Canada is a potential competitor, with plantings of soft wheat on the upswing there.

Much of the American wheat exported to developing countries is subsidized by the U.S. government as part of its foreign aid program. Since a minimum of 50 percent of commodities exported under aid programs must be shipped in American flag vessels, the delivered cost to buyers is higher, which tends to limit the market for American wheat. However, without a subsidy the wheat might not be sold at all, posing a difficult policy issue which is periodically reexamined by Congress, as it has been in the 1985 session. The administration has initiated a new "bonus bushel" program for subsidizing exports. This program involves the addition of grain from government stockpiles to export sales, thereby reducing the cost per bushel to the foreign buyer. The first sale under this program was negotiated with Algeria in June, and the second was negotiated with Egypt in July.

Extensive new plantings of apples in Washington may expand production by as much as 50 percent by the early 1990s, according to Professor O'Rourke. Marketing of this expanded crop requires aggressive development of export markets since the domestic markets for both fresh fruit and juice have been growing too slowly to absorb the size of the production increase which is expected. If new markets are not found, domestic prices and orchard profits are likely to fall.

Fresh potatoes are primarily sold in the domestic market, since other major potato-consuming countries, especially in Europe, tend to protect domestic producers. Much of the Pacific Northwest's crop is sold as fresh potatoes within the United States, and the remainder is processed into french fries and other processed products, and then shipped to markets around the country or abroad. Productivity has been growing, with little growth in ultimate markets, resulting in a contraction of the number of acres planted. These trends are expected to continue in the long run unless some new products or export markets are identified.

Little dramatic change is expected for cattle and calf production, a sector whose market is tied to domestic population growth and dietary preferences. Dairy product markets are closely tied to government policies. Dairy price support policies are being reviewed in the current congressional session as part of the administration's effort to find ways to decrease the federal deficit.

While the Pacific Northwest's Concord grape industry is facing increased competition from California growers, the wine grape industry in the Pacific Northwest is expanding its plantings. Vintners have not yet expanded to match the potential of the new vineyards. Table wine consumption has increased greatly in the United States, which bodes well for the new vineyards here but, again, foreign competition is severe due to the strong dollar. A more rapidly growing domestic economy would provide a more certain market for this income sensitive product and favor new investments in wineries in the region.

A major uncertainty at the time of writing is federal price support policy for livestock and field crops. The 1981 Food and Agriculture Act will expire this year, and is likely to be replaced by new legislation embodying a more market-oriented approach, according to Wharton Econometrics. A number of draft bills incorporating different approaches were being debated in Congress in August.

The overall outlook for the agriculture sector in the long run is one of considerable change. Wheat growers and apple producers face significant challenges in marketing their output profitably. Some of the smaller crops such as asparagus and wine grapes have substantial growth opportunities. No dramatic technological changes are anticipated, but some expected improvements in the regional infrastructure will make our agricultural products more price competitive. ▪

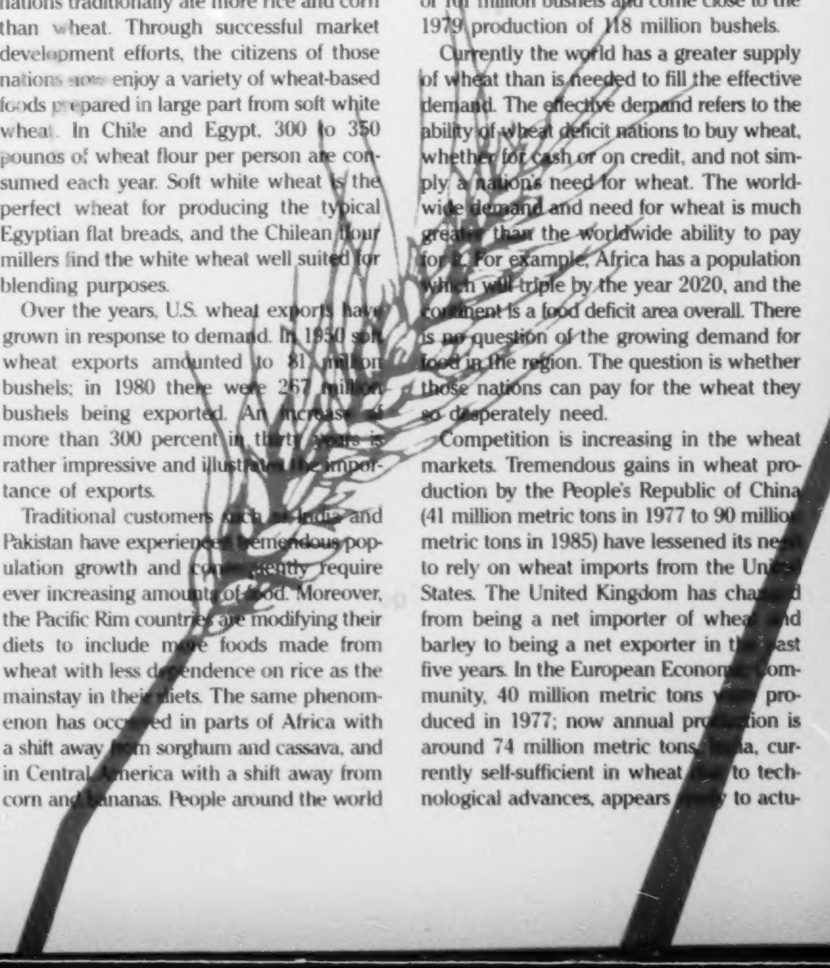
Adapting Wheat to a Changing Marketplace

by Keith F. Sanders

Within the agricultural sector, wheat ranks as one of the most important sources of farm income for the region. In response to overseas demand, Washington state wheat production has increased in recent years from about 93 million bushels in 1970 to about 159 million bushels in 1984. Farm gate value in the same years rose from $137 million in 1970 to $541 million in 1984. The wheat industry is in serious trouble, however, because of the growing wheat supplies both in the United States and worldwide, increasing worldwide competition, and declining market demand.

Washington state wheat farmers specialize in the production of soft white wheats which are well suited to the soil, temperatures, and rainfall patterns of Eastern Washington. These wheats grow best when they are planted in autumn, lay dormant under a protective layer of snow during the winter, and then grow to maturity in the spring and early summer. The dry climate, cold winters, and hot summers of Eastern Washington provide ideal growing conditions for top quality wheat, enabling Washington producers to lead the nation in total production of soft white wheat.

Soft white wheats are genetically engineered to be low in protein with a mild granular texture. These wheats are ideal for cakes, pastries, cookies, certain noodle products, selected Middle Eastern flat breads, crackers, biscuits, and for blending with higher protein "stronger" wheats. Soft wheat is also used for ice cream cones, pie crusts, and even in tortillas. These wheats are not intended for making loaf breads, hot dog buns, and the variety breads now available.



Exports

What happens to the millions of bushels of wheat produced each year? In a typical year, nations such as Japan, Taiwan, South Korea, Egypt, Bangladesh, the Philippines, and Chile buy as much as 85 percent of the U.S. soft wheat production. The Pacific Rim nations traditionally ate more rice and corn than wheat. Through successful market development efforts, the citizens of those nations now enjoy a variety of wheat-based foods prepared in large part from soft white wheat. In Chile and Egypt, 300 to 350 pounds of wheat flour per person are consumed each year. Soft white wheat is the perfect wheat for producing the typical Egyptian flat breads, and the Chilean flour millers find the white wheat well suited for blending purposes.

Over the years, U.S. wheat exports have grown in response to demand. In 1950 soft wheat exports amounted to 81 million bushels; in 1980 there were 267 million bushels being exported. An increase of more than 300 percent in thirty years is rather impressive and illustrates the importance of exports.

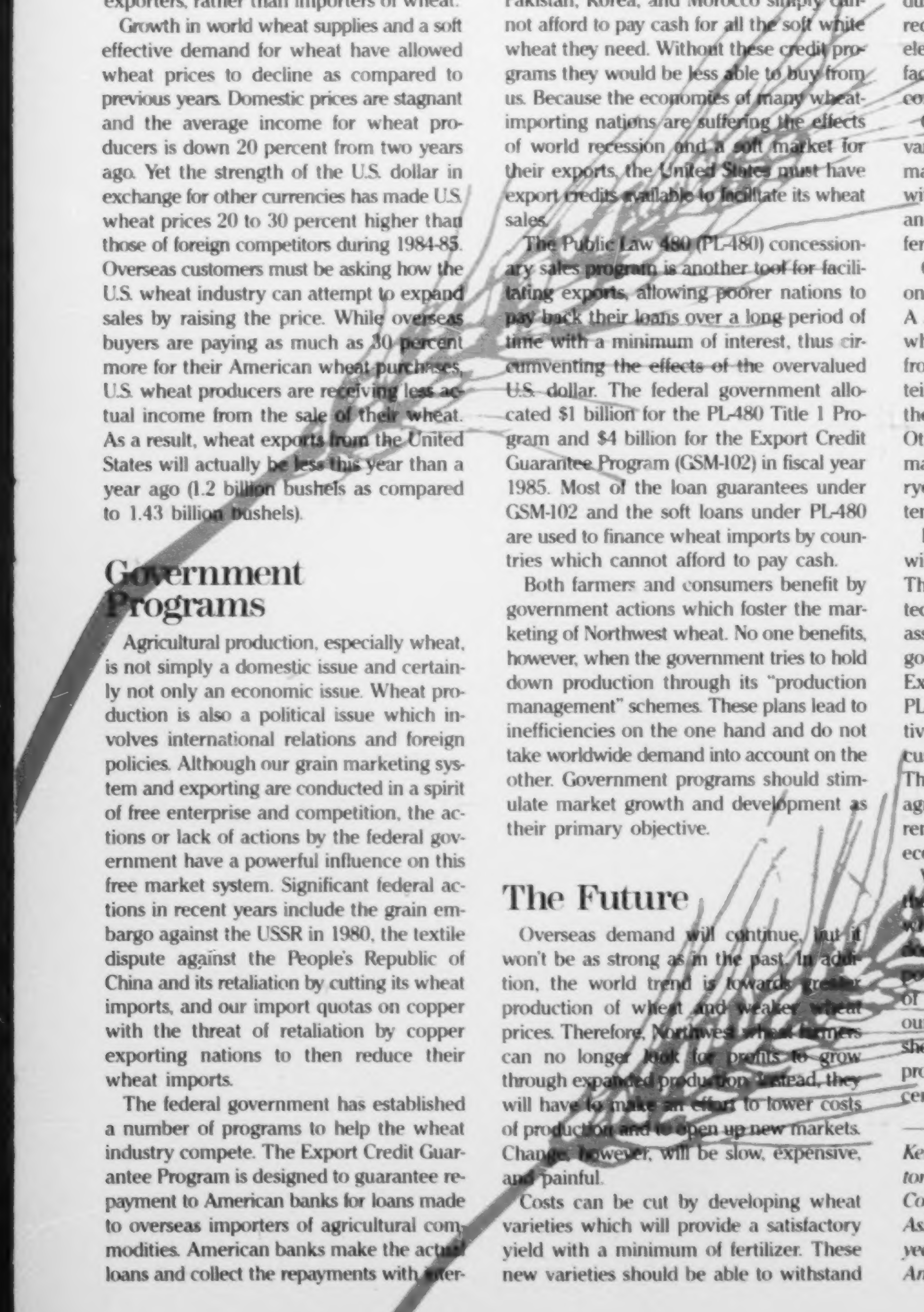
Traditional customers such as India and Pakistan have experienced tremendous population growth and consequently require ever increasing amounts of food. Moreover, the Pacific Rim countries are modifying their diets to include more foods made from wheat with less dependence on rice as the mainstay in their diets. The same phenomenon has occurred in parts of Africa with a shift away from sorghum and cassava, and in Central America with a shift away from corn and bananas. People around the world have increased their consumption of wheat-based products for several reasons including price, when compared to rice, and taste, when compared to sorghum and cassava. Rising income levels, increased mobility of people, and population shifts to the cities have added to the popularity of white wheat bread as a convenience and status food.

Supply, Demand, and Competition

Surplus wheat stocks exist in all parts of the United States. Only a small percentage of soft wheat is used within Washington state for blending with higher protein wheats for use in leavened bread; the remainder is exported. Soft white wheat does not normally move into the large markets back East or to the California markets. Washington state wheat surplus in June was 108 million bushels. This is a record for June stocks and represents a 9 percent increase over the supply on hand in June 1984. These stocks equal nearly 65 percent of Washington's production, based on the average of the past five years. These stocks exceed the actual wheat production in 1977 of 101 million bushels and come close to the 1979 production of 118 million bushels.

Currently the world has a greater supply of wheat than is needed to fill the effective demand. The effective demand refers to the ability of wheat deficit nations to buy wheat, whether for cash or on credit, and not simply a nation's need for wheat. The worldwide demand and need for wheat is much greater than the worldwide ability to pay for it. For example, Africa has a population which will triple by the year 2020, and the continent is a food deficit area overall. There is no question of the growing demand for food in the region. The question is whether those nations can pay for the wheat they so desperately need.

Competition is increasing in the wheat markets. Tremendous gains in wheat production by the People's Republic of China (41 million metric tons in 1977 to 90 million metric tons in 1985) have lessened its need to rely on wheat imports from the United States. The United Kingdom has changed from being a net importer of wheat and barley to being a net exporter in the past five years. In the European Economic Community, 40 million metric tons were produced in 1977; now annual production is around 74 million metric tons. India, currently self-sufficient in wheat due to technological advances, appears likely to actu-



ally export wheat in 1985. Argentina recently increased its domestic support price for wheat to the equivalent of $2.93 per bushel as part of the government's effort to increase production and exports. Other countries such as Greece, Sweden, Austria, and perhaps even Saudi Arabia are now possible exporters, rather than importers of wheat.

Growth in world wheat supplies and a soft effective demand for wheat have allowed wheat prices to decline as compared to previous years. Domestic prices are stagnant and the average income for wheat producers is down 20 percent from two years ago. Yet the strength of the U.S. dollar in exchange for other currencies has made U.S. wheat prices 20 to 30 percent higher than those of foreign competitors during 1984-85. Overseas customers must be asking how the U.S. wheat industry can attempt to expand sales by raising the price. While overseas buyers are paying as much as 30 percent more for their American wheat purchases, U.S. wheat producers are receiving less actual income from the sale of their wheat. As a result, wheat exports from the United States will actually be less this year than a year ago (1.2 billion bushels as compared to 1.43 billion bushels).

Government Programs

Agricultural production, especially wheat, is not simply a domestic issue and certainly not only an economic issue. Wheat production is also a political issue which involves international relations and foreign policies. Although our grain marketing system and exporting are conducted in a spirit of free enterprise and competition, the actions or lack of actions by the federal government have a powerful influence on this free market system. Significant federal actions in recent years include the grain embargo against the USSR in 1980, the textile dispute against the People's Republic of China and its retaliation by cutting its wheat imports, and our import quotas on copper with the threat of retaliation by copper exporting nations to then reduce their wheat imports.

The federal government has established a number of programs to help the wheat industry compete. The Export Credit Guarantee Program is designed to guarantee repayment to American banks for loans made to overseas importers of agricultural commodities. American banks make the actual loans and collect the repayments with interest directly. However, the loans are guaranteed by the Commodity Credit Corporation of the USDA in the event of default. This is one of several credit programs available from the USDA. These programs are vitally important to the Pacific Northwest because customers such as Bangladesh, Chile, Egypt, Pakistan, Korea, and Morocco simply cannot afford to pay cash for all the soft white wheat they need. Without these credit programs they would be less able to buy from us. Because the economies of many wheat-importing nations are suffering the effects of world recession and a soft market for their exports, the United States must have export credits available to facilitate its wheat sales.

The Public Law 480 (PL-480) concessionary sales program is another tool for facilitating exports, allowing poorer nations to pay back their loans over a long period of time with a minimum of interest, thus circumventing the effects of the overvalued U.S. dollar. The federal government allocated $1 billion for the PL-480 Title 1 Program and $4 billion for the Export Credit Guarantee Program (GSM-102) in fiscal year 1985. Most of the loan guarantees under GSM-102 and the soft loans under PL-480 are used to finance wheat imports by countries which cannot afford to pay cash.

Both farmers and consumers benefit by government actions which foster the marketing of Northwest wheat. No one benefits, however, when the government tries to hold down production through its "production management" schemes. These plans lead to inefficiencies on the one hand and do not take worldwide demand into account on the other. Government programs should stimulate market growth and development as their primary objective.

The Future

Overseas demand will continue, but it won't be as strong as in the past. In addition, the world trend is towards greater production of wheat and weaker wheat prices. Therefore, Northwest wheat farmers can no longer look for profits to grow through expanded production. Instead, they will have to make an effort to lower costs of production and to open up new markets. Change, however, will be slow, expensive, and painful.

Costs can be cut by developing wheat varieties which will provide a satisfactory yield with a minimum of fertilizer. These new varieties should be able to withstand disease and insects, thus reducing the need for costly insecticides and herbicides.

Markets exist in the Northwest itself and overseas for hard and soft white wheats with slightly higher protein content. But a movement into such a new product would require dramatic changes in the wheat industry infrastructure. Specialty wheat would require special storage at the farm, grain elevator, and export terminal. New transport facilities would be required, as would more complex systems of payment.

Other approaches involve developing new varieties of feed barley, for which a demand may exist in the region. Barley can rotate with wheat, thereby disrupting the disease and insect cycle in wheat, enhancing soil fertility, and reducing costs of production.

Crop diversification efforts can also focus on rapeseed, known as "canola" in Canada. A Japanese market exists for rapeseed oil, where it is used in cooking, and for meal from the seed, which is used as a high protein source of animal feed. The extent of the market, however, is not clearly known. Other crops for which markets exist are malting barley and triticale, a cross between rye and wheat which may have some potential as a forage crop.

Even with these efforts, federal support will continue to be needed for some time. The realities of our strong dollar and the techniques applied by foreign governments assisting their wheat producers necessitates government export assistance such as the Export Credit Guarantee Program and the PL-480 Program. These programs are effective and are appreciated by our overseas customers in need of financial assistance. They also help to maintain the strong agricultural tradition in our country, which remains important for cultural as well as economic reasons.

Wheat has a major economic impact on the Northwest economy, and no one gains when production is cut. At full production, domestic food prices are held down and export earnings, which benefit the port cities of the region, increase. Thus the focus of our efforts and of government support should be on marketing wheat and the new products coming on line. We should be concentrating on development, not decline. ▮

Keith Sanders is the newly appointed director of marketing for the Washington Wheat Commission, on loan from the U.S. Wheat Associates. He recently returned from five years on assignment for them in South America and the Middle East.

Life-threatening Illness and the Employee:

IMPLICATIONS FOR MANAGERS

by Mara Adelman and Pamela LaFayette

Linda works in middle management for a large corporation. In September she was diagnosed with cancer and underwent six months of treatment. During this time she remained an active employee in her organization.

Linda's Perception:
Very soon after my diagnosis of cancer, coworkers treated me differently. Obviously, they felt awkward. Very few spoke directly to me about my illness. Over time, I felt that coworkers were taking away my job—doing parts of my work and making decisions without including me. Normal mistakes were being attributed to my disease. I struggled to be sick on my own time so my treatment wouldn't interfere with my work schedule. Yet no one seemed to support my efforts. The hardest thing about treatment was that I had to make it okay for everyone else. I not only had a disease, I felt diseased.

Linda's Coworkers' Perceptions:
We cared about Linda, yet felt awkward about her illness. We feared saying the wrong thing, so we said nothing. Admittedly, our own fears about cancer, dying, and death made a few of us withdraw from Linda. We felt we needed to make work easier for Linda, so we willingly took on some of her job tasks. We eventually began to resent the extra work load, yet we felt guilty about having those feelings. Some of us began to wonder how much longer we would have to do Linda's work as well as our own.

Linda's Manager's Perception:
Throughout the course of Linda's illness, I felt unsure as to how or when to approach the topic of her disease with her or the staff. It seemed crass to think about office routine and yet I knew the situation was affecting the staff. Out of concern for Linda, I delegated parts of her job, but didn't talk directly to her about this decision. I was troubled by the gradual drop in staff productivity and morale. I was also confused by the emerging distance and resentment from Linda toward me.

Confusion and conflicts underscore the realities of life-threatening illness in the workplace. When we are confronted with the serious illness of another, we are reminded of our own mortality. As workers in organizations, we are also reminded of our dispensability. Life-threatening illness poses taboo issues which we are often unprepared to deal with, especially in the workplace.

Today, life-threatening illness is an inevitable reality for many employees. Evidence shows that one out of three people will be diagnosed with cancer at some time during his or her lifetime. In Washington state, the American Cancer Society projects 15,200 new diagnoses in 1985. The Society also reports that 50 to 75 percent of the workers diagnosed with cancer encounter social or job discrimination.

In addition to suffering from a life-threatening illness, workers must carry the social, as well as physical, stigma of their disease. An employee's tenure and status in the organization, as well as the nature and duration of the illness, will influence the reactions of others. For the manager, the following key questions should be considered. What do these employees perceive as supportive? How does life-threatening illness af-

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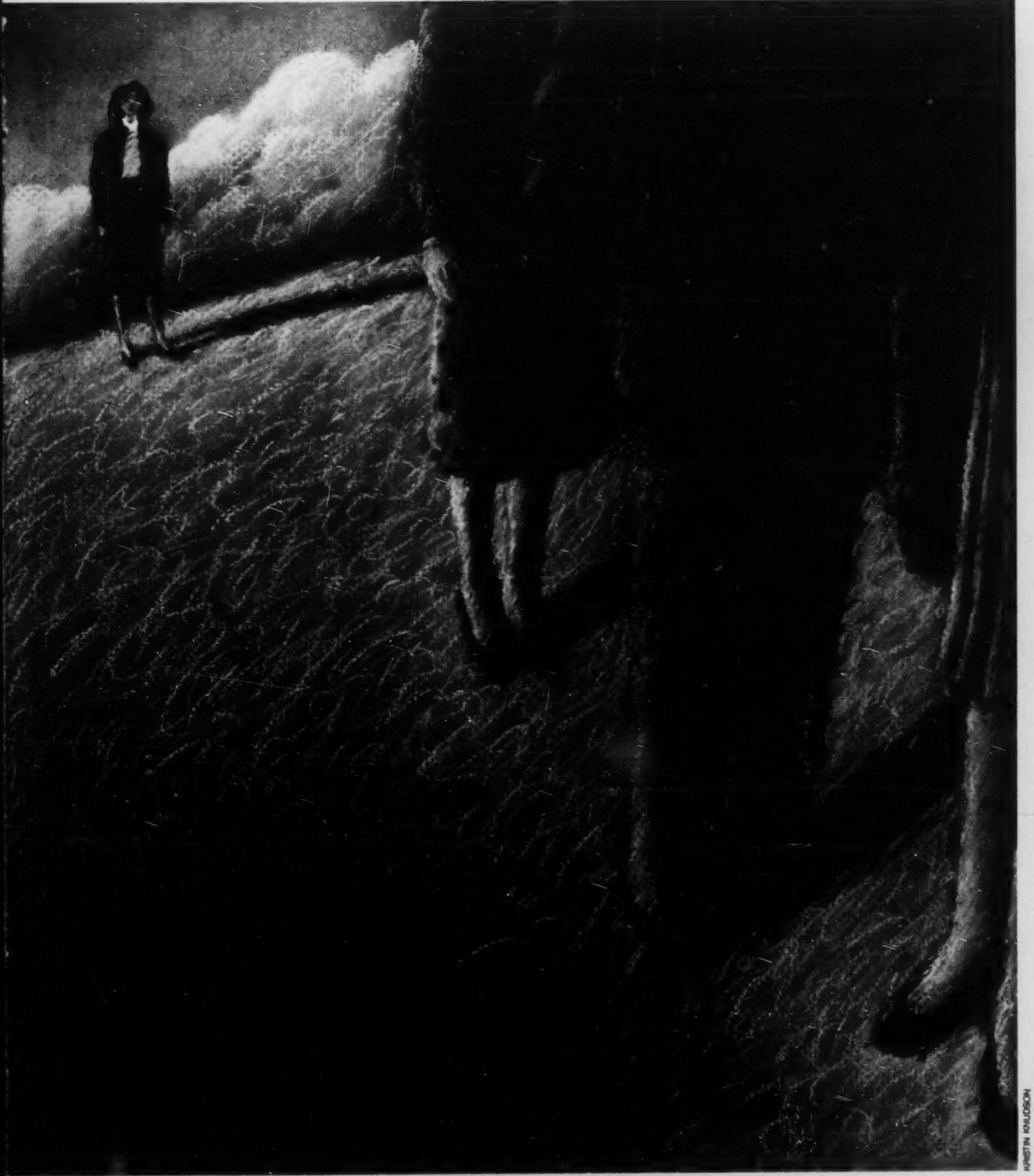
Mara Adelman has volunteered telephone services and data analysis for Cancer Lifeline for three years. She is currently coauthoring a book, Communicating Social Support: Processes in Context, *and is a doctoral candidate in speech communication at the University of Washington. Pamela LaFayette has served as director of Cancer Lifeline for the past three years. She is a frequent guest speaker in the Seattle area and is one of the developers and a facilitator for Cancer Lifeline's "Living Through It . . ." program for businesses. The authors wish to thank those interviewed for sharing their experiences.*



KRISTIN KNUDSON

fect office morale and productivity? What practical approaches can I take to assist sick employees and their coworkers?

SOCIAL SUPPORT

Social relationships are the strongest potential resource in coping with a life-threatening illness, as well as the most vulnerable. Social support comes in many forms. It can include tangible support such as time, money, and labor, as well as emotional support communicated through a sense of caring, concern, and affirmation. The well-intentioned efforts of Linda's coworkers and manager were perceived by Linda as a threat to her job, not social support. Consequently, managers, coworkers, and ill employees must have open communications, in order to agree on what constitutes appropriate support.

Several studies on social support and cancer patients indicate that communication is especially problematic. Patients frequently reported that they were treated differently and that they were misunderstood, avoided, or feared. The opportunity to clarify the situation and engage in supportive interaction is important for employees facing a life-threatening illness. However, it may be difficult for managers and fellow workers to respond appropriately.

Understanding issues in supporting a worker through a life-threatening illness can enable managers to anticipate potential problems for themselves and employees. In some companies the Employee Assistance Program provides guidelines for appropriate action regarding job performance and employee intervention which may be very helpful to managers. The following issues are particularly pertinent to providing social support to employees within the organizational context.

Avoidance and Vulnerabilities. Because of a reluctance to discuss life-threatening illness, managers may find it difficult to share their concerns with the employee who is ill. Even when problems with work have escalated to the extent of affecting other coworkers, managers may still resist intervening. Understandably, highly charged emotional issues are threatening for both managers and staff. Personal vulnerabilities are triggered and intensified by reluctance or inability to discuss the illness openly. Concern for "doing it right" often results in doing nothing. In assisting callers to Cancer Lifeline we have found that in the course of a life-threatening illness, intervention inevitably becomes more difficult. Consequently, a wait-and-see attitude on the part of managers can only intensify an already complex situation for the organization.

Resentment and Guilt. A recurring theme in our interviews with managers and coworkers was the conflicts in connection with their efforts to support an ill employee. If the illness increases the coworkers' work load over a long period of time, resentments emerge which can be complicated by feelings of guilt. "After all, how can I feel angry at someone who might die?" These mixed emotions can often create a very stressful work environment.

Morale and Productivity. Social relationships are a significant part of organizational life. In an article reprinted in *The Seattle Times* entitled "Coworkers Become Surrogate Families," the author noted, "Most of us form friendships in the workplace that approach and often replace family ties. Close associates become surrogate families. . . ." Understandably, if the employee is integral to the social life of a group, his life-threatening illness will be emotionally disruptive for work routine and relationships. Ongoing illness may drain the coworkers of their capacity to provide emotional and tangible support. If and when death becomes imminent, a work slowdown may be a healthy sign of grieving and restructuring of the group. But performance will undoubtedly suffer.

MANAGERIAL INTERVENTION

We do not propose that managers become surrogate social workers, but in most cases their leadership is critical. It has been our experience that issues and problems with life-threatening illness will escalate without early intervention and frank talk. We firmly believe that the following four steps are necessary to lessen the effects of life-threatening illness upon all employees: intervening early, managing tasks, obtaining third party intervention, and facilitating ritual.

Intervening Early. Managers need to initiate candid talk about the illness, thus setting a model for staff and encouraging them to deal directly with the issues. However, it takes more than a casual "If there's anything I can do, let me know." This cliche is seldom taken seriously. Furthermore, such pat responses place the responsibility and risk on the employee to initiate action.

We do not assume that managers instinctively know how to respond to life-threatening illnesses of others. Few of us do. While managers can anticipate the needs of sick or recovering employees, they cannot assume to know what these needs are. The problem of assuming needs was poignantly revealed in a recent study of women recovering from radical mastectomies. The authors found that while well-intentioned supporters conveyed their concern for the woman's physical loss of her breast, the patient's primary concern was her fear of recurring cancer. Therefore, managers need to ask the employee the following questions: Can you help me to understand your situation better? What are your concerns about your work? Your coworkers? Your future?

HOW PREVALENT IS THE PROBLEM?

Accurate data on a topic which people generally don't like to talk about are difficult to come by. However, mortality rates used by insurance companies can provide a clue as to how many employees in the Pacific Northwest suffer from life-threatening illnesses. Based on statistics supplied by Safeco Life, we estimate an annual rate of 4.5 deaths per thousand employees. With a workforce of 3.5 million people, that's about 16,000 employee deaths each year across Idaho, Oregon, and Washington.

Many of these deaths are due to accidents or other causes besides life-threatening illnesses such as cancer, stroke, and heart disease. Roughly speaking, we can estimate that about 10,000 Northwest employees die from life-threatening illnesses each year, many of whom are on the job until a few weeks before their deaths.

If we assume that each threatened worker is part of a work group of 10 people, then this year upwards of 100,000 workers and managers will be affected by the stress of working with a colleague who is on the job, but is, in fact, dying. And that's only in 1985.

Each year another 100,000 workers will confront the same problem. It's a safe bet that virtually every manager in every organization in the region will sooner or later have an employee who is seriously ill, yet on the job. And, as medical technology gets better and sends more of these people back to work, the issue of managing them and their stressed coworkers will become more important.

What would be helpful? These questions should be asked early in initial conversations with the employee and reasked periodically throughout the progression of the illness. It is critical for managers to maintain an open door policy for the employee who is ill and for other staff to insure an open and supportive climate.

Managing Tasks. Although many services and referrals can be obtained from personnel or Employee Assistance Program counselors, managers can also provide direct links to community resources. The community resources listed at the end of this article provide extensive services to individuals and organizations. For example, it may be useful to know that a free 24-hour telephone service provides emotional support to people in crisis or that a free service assists people in writing wills and financial planning.

If the ill employee is absent for a long period, it is important to keep coworkers informed of his condition, with his permission. In one office, a coworker posted notes and relayed messages between the staff and absent employee. The employee's absence or reintegration may require cooperative efforts between the manager and staff in distributing the work load, obtaining part-time assistance, or arranging for flextime.

Obtaining Third Party Intervention. Certainly, some situations can become overwhelming. Because of the volatile issues involved, life-threatening illness has the potential for deep and long-lasting effects on staff morale, efficiency, and productivity. Bob Ness, manager for human development and training at Thousand Trails, Inc., says, "The consequences of not dealing with the feelings associated with life-threatening illness can be higher turnover, more people taking sick leave, inattention to detail, and quality slippage. So many times things stay on 'hold' until the situation has settled."

In response to organizational concerns expressed by three Seattle businesses, Cancer Lifeline developed a seminar designed specifically to address the issues of life-threatening illness in the workplace. This seminar, "Living Through It . . .", provides facilitators knowledgeable in life-threatening illness and skilled in group dynamics. "Living Through It . . ." enables employees to (1) open communication to facilitate task management and mutual support; (2) assess personal and organizational attitudes and behavior toward life-threatening illness; and (3) obtain factual information about life-threatening illness and appropriate community resources.

Programs such as "Living Through It . . ." are most effective when held in the workplace, during work time, and with the commitment and participation of management. Providing this type of program sends a clear message to employees: "This is a good place to work and this organization cares about people."

The earlier this kind of intervention takes place the better because it is the rare staff which isn't constrained by established habits of communication. G. Kumi Kilburn, vice president and manager of social policy at Rainier Bank, recalls that after the long illness and death of their department manager, ". . . many feelings of unresolved frustration and sadness remained among the staff. We couldn't come right out and talk about it. For our mental well-being we had to do something." She found that bringing in a skilled facilitator was a meaningful and effective intervention, with long-term positive results. She advises managers, "If I could make any suggestions, it would be to realize that putting away emotions, making people unable to talk about them, isn't good for the organization. It's crucial to have some form of intervention. Otherwise, it's a mistake in the long run."

Facilitating Ritual. Rituals mark very important transitions and events in our lives, providing an arena for sharing emotions and affirming a sense of community. Funerals do this for family and friends, but are often not helpful for coworkers. When an employee must leave due to illness, or dies, coworkers do grieve. They've shared a sense of community and they, too, need to find a way to say "goodbye." Without this shared acknowledgment of their feelings, the grieving period may be difficult and prolonged. Sometimes just a simple, informal gathering will be enough.

In her talk in Seattle earlier this year, Dr. Elisabeth Kubler-Ross emphasized that in the case of sudden death, grieving rituals may be particularly important as a means for coping with the unexpected loss. A manager of a small office with a staff of fifteen recalls her own interventions and how the death of an assistant secretary, in a car accident, affected the organization: "When Sally was suddenly killed, with no family close by, as manager, friend, and ex-nurse I had to handle her affairs. This included identifying the body, notifying the family, and answering the calls. It's important to have one person in the office to manage the arrangements and give out information. I'd say we lost about a week's work in coping with the aftershock. Soon after the accident we had a small party to remember Sally—recalling memories, sharing our thoughts. It was important for all of us to say goodbye, to create emotional closure, and to go on with our lives."

In the workplace, we must accept that, as employees, we are replaceable. This is an organizational reality. It is not a human reality. The most devastating effect of a life-threatening illness is when employees come to *believe* that they are dispensable, replaceable, and unnecessary to their work and coworkers. Clearly, this is a belief that no organization can ignore. By dealing effectively and compassionately with life-threatening illnesses, managers can affirm the most profound human value of all—we are indispensable.

HELP FOR THE MANAGER

►**"Living Through It . . ."** is a four hour seminar available from Cancer Lifeline, designed to increase a work group's ability to cope effectively with the issues and concerns life-threatening illness brings to the workplace. Call Pamela LaFayette at (206) 447-8400. **Cancer Lifeline** also has a 24-hour telephone line at (206) 447-4542 to answer questions and provide support.

►**The CAPRI Program** helps those recovering from heart attack to return to a normal, active life. Call (206) 323-7550 for the location of the nearest medically supervised exercise program.

►**The Evergreen Stroke Association** provides information on support services for people with stroke and their families. Call (206) 447-7839 for information on stroke clubs in the region. **The ARISE Center** provides group physical therapy for those recovering from stroke. Call the number for Evergreen above.

►**AIDS information** is available at the **Seattle–King County Health Department**. Call (206) 587-4999, 8 a.m. to 5 p.m.

►Literature is available on how to cope with cancer. Call the **Cancer Information Service** at Fred Hutchinson Cancer Research Center, 1-800-4-CANCER, for free pamphlets. Ask for *Taking Time, Advanced Cancer: Living Each Day*, or *How People Grieve*. For developing social support to cope with work stress, read *Work Stress and Social Support* by J. House, published by Addison-Wesley in 1981. Order it at any bookstore.

MRCI staff in Nakhodka: guess which one is the American?

CHARTER/WILKINSON

Joint

by Elisa B. Miller

Joint venture management, involving individuals from different national, economic, ethnic, and cultural environments joined in a common effort, is never easy. Given the high probability of conflicting views, value judgments, and different ways of looking at problems in general, it is not surprising that such ventures require careful scrutiny. Now, consider a joint venture where the foreign partner is an agency of the Soviet government, as any joint venture with the Soviet Union would have to be.

Marine Resources Company International (MRCI), a Washington state partnership headquartered in Seattle, is such a joint venture and a successful one as well. I asked the managers at MRCI how joint venturing with the Soviets works, what special management problems it poses, and how they cope with day-to-day decision making.

"The idea is simple," says Jim Talbot, the company's founder and president. "It evolved after the United States imposed its 200-mile economic zone in 1976, and is based on the exchange of fish. The Soviets eat hake and other bottomfish which we can fish in American waters. Americans eat crab and other species which Soviets fish in their waters. Hake and other bottomfish have to be processed immediately after catching or they lose their marketability. Soviets have large processor ships that can process hake at sea; Americans have trawlers and are looking for work. Why not make deliveries of U.S.-caught hake to the Soviets and, as payment, receive deliveries of Soviet-caught crab?"

Differences between Soviet and American styles of management affect the way the company handles its strategic planning, especially the way it sets forth new proposals.

After a couple of years of inquiries, Talbot's idea finally caught the attention of the Soviets. The joint venture was formed and began operations in 1978. MRCI's equity, management, risk, and profit are split on a fifty-fifty basis between Bellingham Cold Storage Company, a privately held U.S. company, and Sovrybflot, an agency of the Soviet Union's Ministry of Fisheries (*Sov ryb flot* for Soviet fishing fleet). MRCI buys hake, cod, yellowfin sole, and atka mackerel (not a real mackerel) from U.S. fishermen who fish the Oregon, Washington, and Alaskan coasts. It then "sells" these raw, freshly caught bottomfish to the Soviet Union for processed bottomfish, salmon, roe pollock (fish with eggs), pollock roe, and crab which the Soviets have caught in other waters. MRCI then sells these fish and fish products to consumers not only in the United States, but in other countries such as Japan and South Korea as well.

Negotiating the Terms

The idea is simple. The difficulty is agreeing on the terms of exchange. MRCI's profits are the difference between the dollars it pays out to American fishermen for hake and other bottomfish, and what it can earn from the sales of crab and other fish products after marketing and freight costs have been paid. How much crab, salmon, and pollock it can get for deliveries of hake and other bottomfish, then, is the key to its profits. Back-to-back contractual arrangements where MRCI sells hake to the Soviet Union for dollars and buys crab from the Soviet Union for dollars would make projections regarding profitability clear and straightforward. But the Soviet Union won't pay for hake in dollars. Even if they were to do so for purposes of "paper credit" to be used by MRCI to buy Soviet crab, calculating a dollar price for hake is the problem. First, there is no world market price for hake to use as a starting point. Second, trying to calculate a dollar price for hake based on Soviet domestic ruble prices isn't sensible. Since Soviet domestic prices are often inflated for tax purposes or subsidized for policy purposes, they don't pretend to be market prices which reflect supply and demand. Even if the ruble price were a market price, lack of convertibility would make trying to devise a fair ruble/dollar exchange rate difficult.

To avoid these problematic issues, MRCI's terms of exchange are not as much calculated as negotiated. These negotiated barter ratios, such as how many tons of hake will be given for a ton of crab, become the basis of the company's annual contract and operating plan. The exact exchange is critical to the company's profitability. "Up to this year," says Bert Larkins, the American manager of MRCI, "it has been the crab–hake ratio which has counted the most. But because the Soviets will be buying less hake

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Elisa Miller, a specialist on Soviet business and trade, recently returned from a visit to the Institute of Economic Research in Khabarovsk in the Soviet Far East.

Venturing with the Soviets

and more atka mackerel, it will be the crab–atka mackerel ratio that will matter now. We'll be moving off the hake standard to the atka mackerel standard."

What does Larkins mean when he talks about a hake standard or an atka mackerel standard? How has the hake standard actually worked? Each year after the hake–crab ratio is negotiated, the prices of the other fish products sold to the Soviet Union are negotiated. All are pegged to hake. Thus the price of cod, another fish caught by American fishermen and sold to the Soviet Union, is pegged to hake. Since one ton of cod is worth 1.4 tons of hake, cod can get 40 percent more than hake can get in terms of crab. The same procedure occurs for yellowfin sole and other fish, thus creating a whole series of barter ratios.

Annual contract negotiations are complicated. Sovrybflot, which is a partner of the joint venture that is trying to sell hake, is also the seller of crab. MRCI is negotiating with one of its own partners! If Sovrybflot negotiates more hake than usual per ton of crab, it will make gains at the expense of the joint venture. If it gets less hake than usual per ton of crab, gains are made for the joint venture at Sovrybflot's expense. This situation is not unlike a large multinational corporation with products going from one of its wholly owned subsidiaries to one of its joint ventures.

Negotiations take place in Moscow. Someone on MRCI's negotiating team knows the Russian language inside and out and listens for the nuances and subtleties that occur during the bargaining sessions. "Negotiating skills are learned," says one of the company's top negotiators. "You have to retain an inner flexibility and tolerance while outwardly remaining unflappable, very directed, and very goal-oriented. The Soviets have a reputation for outwaiting the other side. We know we must be willing to wait it out, willing to leave without a contract. Yet we also know that once a contract is signed, the Soviets will do their utmost to keep not only to its letter but also to its spirit."

Differing Management Styles

The Soviet manager is used to working within the context of a government bureaucracy where cost reductions, markets, and profits matter, but where the state's priorities, allocations of resources, and directives matter even more. "One of the most basic things we have learned," says an MRCI spokesperson, "is how our management styles really do differ. American managers usually prize flexibility and quick action. The Soviet manager, on the other hand, is less enamoured with these attributes. He is less flexible and more interested in small incremental changes, not quantum leaps. An American who is quick to see a problem and a solution, quick to see an opportunity or a challenge, will run head on into the Soviet style of management, which is to enact change much more slowly and much more methodically. The Soviets don't like surprises, and we have to respect that. We have to manage that difference."

Initiatives usually come from the American side and take what may seem to be a long time for a response. Differences between Soviet and American styles of management affect the way the company handles its strategic planning, especially the way it sets forth new proposals. MRCI personnel concur that any new proposals they make have to be extremely well prepared and are more easily received when advance notice has been given to the proper Soviet officials. They have found that proposals expressed, initially, in as uncomplicated and direct a form as possible are more readily examined.

Communication

What about day-to-day operations? MRCI's day-to-day production activities take place at sea where the American fishermen transfer their loaded nets from their trawlers to the Russian "mother ships" for processing. These transfer operations sometimes approach high drama as the codends (the nets in which the fish accumulate) are untied from the trawlers and attached to lines let out from the mother ships. One slip and the trawler's entire catch with as much as twenty tons of fish worth up to $4,000 can be lost. "You almost have to be out there during operations to understand what an accomplishment this is," says Tony Allison, who was the company's first manager of fishing operations. "There have been as many as 3,000 Soviet and American personnel making things work under sometimes the most difficult of circumstances. One reason why they do work as well as they do is the emphasis on good communication."

MRCI knows how important clear, unambiguous communication is and the difficulty of achieving it when languages differ. Every season it hires Russian-speaking Americans, including University of Washington Russian language students, to live on board the Soviet processor ships to translate and sometimes to mediate between the Soviet captain of the processor and the American captain of the trawler. MRCI's liaison personnel prevent the simple but fatal mistakes such as a captain, translating from one language to another, saying ship starboard but meaning ship port.

In addition to management of joint operations at sea, MRCI's operations require the management of joint marketing efforts. Most of MRCI's fish products are transshipped through Nakhodka, a port city in the Soviet Far East just east of Vladivostok. Operations in Nakhodka are the linchpin in MRCI's marketing efforts. "Our Nakhodka office assures the quality control and delivery objectives we need when selling on the world market," says Kit Adams, the company's American representative in Nakhodka who manages the office in conjunction with a Soviet counterpart.

The job of the American manager in Nakhodka is a complex one. "A lot of my time," says Adams, "is spent on troubleshooting and problem solving. Basic decisions require Moscow's approval and cannot be made by the Nakhodka staff, but problem

Guidelines for Trade

The Department of Commerce suggests the following guidelines for businesses thinking of entering the Soviet market:

Initial Considerations

- **Be prepared to make a substantial front-end investment without early return.**
- **Allow one to three years to negotiate the first transaction.**
- **Do not begin unless substantial amounts of senior executive time can be committed.**

Negotiating Tips

- **Be prepared to walk away from a negotiation at any time.**
- **Do not negotiate concessionary terms in order to establish a position; you will simply lose respect.**
- **Do not reject unusual transactions out-of-hand. Barter and other compensation arrangements can be profitable.**
- **Negotiate contracts with a maximum degree of specificity. The Soviets have a reputation of living up to the letter of a contract, but of being rather unsympathetic toward items which were inadvertently overlooked.**

General Advice

- **Personal relationships, the establishment of mutual trust and respect, and quality performance are not only important, but are the bases for subsequent business.**
- **Good advance work is imperative.**
- **U.S.–USSR trade is not El Dorado. It has potential, but should be looked at with cold objectivity.**

solving is necessary for the small yet critical problems that arise." Managing in Nakhodka requires patience and a realization that styles and ways of operating do differ. Problems get solved, but it takes longer than what an American is used to expecting. Communication itself is also a lot more time consuming and difficult. Since Vladivostok, headquarters of the Soviet fishing fleet, is off-limits to Americans, much of Adams's time is spent on "faceless" communication — the telephone and, to a much greater degree, the telex. "During our busy season, the telex works overtime," says Adams.

Problems get solved, but it takes longer than an American is used to expecting.

An American in Nakhodka and a Soviet in Seattle are quite effective for managing the critical operations of the joint venture precisely because they smooth communications. For instance, if a telex to Vladivostok about a problem on a processor ship is signed by the Soviet manager in Seattle, an employee of the Ministry of Fisheries on leave to MRCI, it has a lot more significance and credibility than if it were signed by an American unknown to the Soviets. Similarly, a telex from Kit Adams, MRCI's representative in Nakhodka, to Seattle about a delivery problem carries a lot more weight than if it were signed by a Soviet unknown to the Americans.

The Political Factor

In managing a joint venture with the Soviet Union, one cannot escape the political element. "It is the political factor which makes my job different," says Larkins. "Otherwise our business wouldn't be that much different from any other joint venture where cultures and languages differ. The political factor requires a special flexibility that you must have as manager — the readiness to fight fires that unexpectedly come up. A good deal of my time is planned to handle unplanned events. Whether in Washington, D.C., Olympia, or across the lake in Bellevue, there is always someone discovering, once again, that there are some Russians doing business off our coasts and wanting to know just what that business is."

"Sure," Larkins continues, "there are some people who feel threatened by Soviet–American cooperation." Groups within the fishing industry itself might feel that while the venture is not now in direct competition with anyone, the future may be different. Nevertheless, Larkins feels that such sentiments are scarce. Around Longview, Washington, for instance, according to Larkins, there wouldn't be much sympathy for any redbaiting, since the joint venture is livelihood for too many in a depressed industry. "Bottomfish is the only segment of the industry which didn't go bottoms up," Larkins says. "The marina owner knows it. The boat supplier knows it. The bartender knows it."

Larkins, who was the Northwest Regional Director of the National Marine Fisheries Service before coming to MRCI, says a good deal of his time is spent watching events in Washington, D.C., trying to foresee, as well as forestall, potential problems. Probably the most serious political threat to MRCI came from the U.S. Department of State, which imposed sanctions on the Soviet Union after the Soviets invaded Afghanistan. Between 1980 and 1984 the United States took away all rights of the Soviet Union to a direct fish catch in American waters. But, perhaps due to the many hours MRCI spent in Washington, D.C., joint venture fishing was not embargoed. "The State Department no doubt sees some value in our existence," says Larkins. "And, of course, besides the economics, there is value to it, particularly in the informal communications network that we can provide. This is a positive, scarce activity that is very much needed."

Coping with U.S. political groups and with U.S. government actions is one aspect of managing the joint venture. The flip side, of course, is coping with Soviet politics. Tony Allison, who is slated to head the company's new office in Moscow, says, "Politics is ever present. We have to understand that. We have to understand that the prestige of the Soviet Union appears to be at stake in virtually all of its dealings with foreigners. Foreign policy, or some aspect of it, enters into everything. Besides being on the lookout for trade possibilities, we have to be on the lookout for national sensitivities. Besides training to translate from one language to another, we need training to translate from one system to another."

Leibniz, one of the great philosophers of the Enlightenment, observed: "The place of the other is the best point of view in politics as in morality." MRCI's experience has taught us this holds true for joint venture management as well.

Initiating Trade with the Soviet Union

Assistance from the following sources is available to American companies wishing to initiate trade with the Soviet Union:

U.S. Department of Commerce
USSR Affairs Division
Washington, DC 20230
(202) 377-4655

U.S. Commercial Office (USCO)
Mailing address:
American Embassy, APO New York 09862
Telex 871-7805 US COMM SU
Telephone (in Moscow) 255-48-48

Soviet Consulate
2790 Green Street
San Francisco, CA 94123
(415) 922-6642

Valerii P. Chichkanov, Director
Institute of Economic Research
22 Seryshev Street
Khabarovsk, 680000 USSR

The Soviets maintain numerous foreign trade organizations (FTOs) that are authorized to purchase items that have been targeted for import and export. The U.S. Department of Commerce maintains a list of FTOs (from *almazuvelirexport* to *zapchastexport*) and suggests how U.S. companies might influence FTO representatives, potential Soviet customers, and industrial ministries to request permission from Soviet planning authorities to import specific American-made products.

In addition to Soviet annual plan targets, the USSR Affairs Division in the U.S. Department of Commerce gives advice on organizations and people to contact in the USSR. Moreover, it can provide the uninitiated with a step-by-step plan that might ultimately result in a successful transaction. The Department of Commerce is also prepared to discuss Soviet negotiating tactics.

The U.S. Commercial Office, located adjacent to the American Embassy in Moscow, will arrange business appointments, provide reception and exhibition space at its offices, locate translators and secretarial services, and provide telex services. Companies on the West Coast may find it convenient to contact the Soviet Consulate in San Francisco for information. Northwest business people interested in learning about trade opportunities in the Soviet part of the Pacific Rim may contact the Institute of Economic Research in Khabarovsk for information on economic programs in the Soviet Far East.

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University of Washington
Graduate School of Business
Vol. 2, No. 1 January 1986

ON THE ROAD TO EXPO

REGIONWATCH:
- Forecast Accuracy
- Personal Income Indicators

Washington's Tax Puzzle

The Hidden Failures of Japanese Marketing Successes

The Washington State Development Loan Fund

From the Business Community

Nineteen eighty-six is a promising new year complemented by a promising new publication. I salute Richard P. Cooley, chairman of the board of Seafirst Bank, for providing the necessary funds to make the University of Washington's ***Pacific Northwest Executive*** *magazine a reality. It reflects both an innovative spirit and a generous commitment to bettering our region's business environment.*

This environment, by the way, is targeted to prosper in this, the year of Vancouver's EXPO 86. In Washington, alone, more than 700,000 EXPO 86 visitors are expected to drive through the state, en route to Canada. Experts predict they will spend as much as $65 million before leaving Washington state borders. This represents a healthy shot to our economy as well as a unique opportunity to promote tourism in this state.

So it is up to each of us to enhance the theme promoting Washington as "the best thing next to EXPO." Surely, the refreshing beauty of the Northwest speaks for itself. But let's extend that perception to our quality of life. Let's make our visitors welcome. And, by all means, let's remind them to phone ahead for reservations!

Here's wishing you a healthy and prosperous new year.

See you at EXPO 86.

A. V. Smith
President
Pacific Northwest Bell

PACIFIC NORTHWEST Executive

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JAPANESE MARKETING:

Short-term Failures vs. Long-term Successes

The signs of the success of Japanese companies are nowhere more apparent than in the shares their products have captured in the global marketplace. This does not mean, however, that they are universally successful. Looking behind the glossy veneer of the popular success stories, as this article does, one catches glimpses of failures which call to mind the dilemma of Pyrrhus who said, "One more victory like this will finish us."

The Japanese successes in the world's product markets are rapidly making traditional marketing know-how obsolete. Because of companies such as Toyota and Nissan, *niche targeting* and *beachhead landings* have become accepted marketing terms to describe an indirect attack on well established competitors. Their success against American antagonists has demolished forever the principle that mature markets are more difficult to break into than new growth markets. Who, for instance, took on General Motors? Toyota did.

Repeated product innovation by companies such as Sony and Honda has contributed to the breakdown of the marketing concept that to be successful a company must tailor its products closely to market desires. These companies do little, if any, market research yet their products are creating entirely new consumer needs and demand. Who wanted a Walkman in the first place? Sony's Morita did.

Scrambling to get back on their feet, marketers in the United States and elsewhere have been busy deciphering the marketing code used by the Japanese. What makes the Japanese so great at marketing? Can Americans achieve success their way?

◆

A Surprising Paradox

With these questions in mind, I started studying Japanese marketing during an extended visit to Tokyo in 1980. Now, five years and seven trips later, after countless interviews with managers and marketing employees in some of the leading companies of Japan, the answers are emerging as a surprising paradox. The Japanese are not so great at marketing after all. Yet, they do often succeed by tenacious application of very simple and basic marketing principles. Can Americans achieve success through simple approaches, too? No, American companies can not afford to.

What is behind this paradox? The most important point is that the successes of the Japanese almost invariably hide a number of failures. By failures I do not mean bankruptcies (although Japan has a higher rate of bankruptcies than the United States does). Neither do I mean that products have been introduced on the market and then withdrawn. I simply mean that their products do not make money for the company.

My contacts in the Japanese companies talked, cautiously but unmistakably, about products losing money. They referred to the years of mistakes before success was at hand, and about not recouping investments until ten or fifteen years later. It was difficult to believe that they were speaking about the same companies which seemed so successful in the global marketplace.

After some initial interviews, I was inclined to attribute the fact that some products were losing money for the Japanese companies to intense market competition. In 1975, for example, Canon suffered losses for the first time in company history because of its fight against Sharp and Casio in the calculator market. Prices had fallen to a thirteenth of their original level in just three years. So, clearly, failure can be the result of competitive forces.

Another element in the picture is the Japanese company's ability to sustain financial hardships for several years. It is based on the availability of three things: low-interest loans from banks, support from other companies in the semi-restored zaibatsu groupings, and government tax breaks. Being able to sustain financial hardship

by Johny K. Johansson

seems to account for their tenacity in holding onto products that are losing money. Honda lost money on its manufacturing venture in Brussels for ten years in the sixties and early seventies, after which it had effectively wiped out the British motorcycle industry and could itself barely survive financially. It took Shiseido fourteen years to start making a dent in the U.S. cosmetics market.

These explanations do not completely solve the paradox. The question still remains of *why* the Japanese maintain their grip on losing products. Why do they have to wait so long before their products succeed? Sustaining losses for a while, even a long while, is one thing. But if it is not necessary, why do it? And if the Japanese are so good at marketing, why should they have to tolerate failure?

Further interviews probing these questions revealed that underlying many, if not all, of the long-term Japanese successes, especially in the U.S. market, is a string of short-term failures. I found examples of errors that were completely at odds with the idea of the Japanese as world champion marketers.

Uncanny Insight?

Jack Welch, chief executive officer of General Electric, has been credited with the observation that "the Japanese have gotten the American consumer's number." This idea, commonplace today, that the Japanese somehow have an uncanny sense of what goes on in the mind of the American consumer is not necessarily accurate. Toyota first entered the California market thinking that Americans would only buy its largest car, the now immortal Toyopet. Similarly, Honda targeted its largest motorcycles for the U.S. market, reasoning that this would be the only viable model for Americans. In both cases they were wrong.

In fact, many successes have actually been spearheaded by Americans working for the Japanese companies. The "You meet the nicest people on a Honda" slogan, which helped create an entirely new small bike market in the 1960s, was the brainchild of an undergraduate student at UCLA and was introduced by Honda's American advertising agency over the initial objections of several of the Japanese executives.

More recent examples of American involvement in Japanese successes also exist. The shift to a four-hour video recording capability for the VHS format was proposed and insisted upon by RCA as a condition for paying the Japan Victor Company for its VHS patent. Using tennis star John Newcombe to advertise the pathbreaking Canon AE-1 camera was suggested by an American advertising agency to Japanese executives who had anticipated using football players. Successful autos such as Honda's Civic and Accord and Toyota's Celica are now created largely by American designers. The Japanese might be able to read the mind of the American consumer, but in many instances they have actually been reading from the playbook developed by American professionals.

Successful Entry Strategies?

The idea that the Japanese have developed innovative techniques for entering foreign markets has another side to it, too. Yes, they do attack via a beachhead when the markets are mature and their competitors are well established. Yes, the value of targeting smaller niches in the market is also well recognized (they call it the *sukima* approach after the thin opening left when a sliding door is not fully shut). Steel companies such as Sumitomo have followed this approach in selling specialty steel and alloys. The success of Subaru's four-wheel drive cars in the United States is another good example of niche targeting. So is the entry of Ricoh and Canon into the lower-end copier market.

But there are also slip-ups in entering foreign markets. In 1982 the Japanese company of Bridgestone, the world's number three tire maker, bought a Firestone plant in the United States to expand from its base of heavy truck tires into the automobile tire replacement market. However, the combination of an ill-advised contract to allow Firestone to buy back a share of the production, and a downturn in the U.S. market has nullified Bridgestone's inroad into the replacement market. After three years, the Bridgestone tire is still mired at less than a 1 percent share of the target market.

One often problematical approach the Japanese company uses is to learn what other companies from Japan are doing and then to imitate them. The Bridgestone entry, unfortunately, was modeled after the Matsushita purchase in 1976 of the Quasar television plant outside Chicago. After Sony established a television plant in San Diego in 1971 to get around trade barriers, Matsushita decided to jump into the market by buying Motorola's existing Quasar manufacturing unit. Despite heavy investments in new machinery, cost-saving reductions of the labor force, and years of glowing reviews and high productivity figures, the plant has never been profitable. The Quasar plant is now up for sale. Thus, copying from a role model merely replicated the model's failure in Bridgestone's case.

In the field of computers, the Japanese have yet to come away with a successful share of the market. Although in many ways the PC's of Fujitsu and NEC, for example, are comparable or better than American computers on a feature-for-feature basis, their marketing efforts have been misdirected and ill-advised. Slow recognition of the need for compatibility with the IBM and other standards, focus on product features rather than user benefits, and an unwillingness to invest enough in support services has made the Japanese computer manufacturers' attack on the U.S. market quite feeble.

Success Against All Odds

A compelling explanation for some marketing failures is that the Japanese use failure as a prelude to success. The Japanese companies have a penchant for success-against-all-odds stories, corporate myths about products that succeed after numerous trials and tribulations. These undoubtedly serve a very useful motivational purpose and are good for employee morale, but they also tend to hide the fact that the successes might not be quite as complete as they seem to outsiders. In particular, it is often not clear whether the sacrifices entailed are justified by the ultimate payoff.

Toray, the large Japanese textile company, took about twelve years to develop its ultrasuede, Ecsaine. While all the other companies, including DuPont, called off their R&D efforts after five or six years, Toray doggedly pursued the artificial leather product. Its success is based mainly on the fact that the expensive material (it costs about five times as much as genuine leather) does sell in a few select stores in Europe and the United States in addition to the Japanese markets. The product has encountered resistance in the marketplace, however, and Mitsukoshi, the prestigious department store chain, is one outlet that discontinued the product. Is Toray recouping its investment? "Not quite yet," say company spokesmen.

Matsushita spent over ten years trying to develop a VCR for the consumer market. Since Sony was also underway with R&D, the fact that the Matsushita effort netted little, if any, gain did not matter; maintaining pride was important. After Sony unveiled its Betamax in 1977, a dozen or so of them found their way into Matsushita's laboratories where, by intense application of reverse engineering, the VHS was developed in two years. Now, of course, the product is a success. But what about the ten lean years? "It was a good learning experience," says a company source.

Shiseido is the largest cosmetics company in Japan, with 30 percent of that huge market. Entering the United States in the sixties, Shiseido attempted to copy its mass retailing formula used in Japan of selling through drug store chains. After years of frustration, a consultant from Helena Rubinstein was hired in 1978 to help raise its market share, a final effort before pulling out of the United States altogether. The consultant pointed out that in the United States, cosmetics are typically sold in a "top-down" fashion; it is necessary to have the endorsement of one or more of the great New York department stores and then mass retailers will come to you. Targeting Bloomingdale's and Saks' Fifth Avenue instead of Bartell's and Wahlgreen's, Shiseido is now finally on its way in the U.S. market.

These are not isolated examples; they are in many ways typical of the Japanese businesses' performance. Most great successes seem to have an early period of groping, testing, trial-and-error, fits and starts, and general uncertainty. In Japan this early period is not just a matter of the first six months or a year, but often a decade or longer. The Japanese find nothing remarkable about this, but instead reproach Western companies for their shortsightedness. Americans, in their view, simply do not understand how to use failure constructively.

Are the Japanese Amateurs?

At times, these examples of failure and success make it tempting to view the Japanese marketers as no better than amateurs who reject hard-headed professionalism. They are not amateurs. The most important obstacle to developing expert marketing skills, however, lies with the cherished tradition of viewing professional management as unnecessary.

Recent management thinking in Japan, and to some extent in the United States, emphasizes the need to get back to basics. The Japanese have even gone so far as to claim that the simple eyes of the amateur are far more valuable in assessing new product and market opportunities than those of the seasoned professional. One version of this new approach is "experts will say no, whereas amateurs will say why not?" This philosophy justifies a reliance on loyal, committed, in-house talent, but is also likely to make each new endeavor as risky and unpredictable as the last one.

Part of the problem undoubtedly has to do with the lack of higher-level hiring in Japanese companies and the consequent lack of expertise in new product markets. This is apparently one reason why Toyota's present entry into U.S. manufacturing is proceeding so slowly. Even though one would think the company has built up some overseas expertise and know-how by now, Toyota's management seems to be extraordinarily cautious.

One would perhaps assume that, over time, those long periods of trying to get things right could be shortened as experiences accumulate and managers come down the learning curve. There are surprisingly few examples of this: Honda's decade of losses in Belgium led to a shorter start-up period for its Ohio plant; Sony's experiences with the Walkman were applied to its later Watchman and Discman developments by keeping the miniaturization unit intact and not following the usual practice of rotating employees. But much more common in overseas market entries is the Japanese company's stress on simple, amateurlike approaches and reliance on relatively fresh, young hires who lack expertise.

The Japanese are aware of the deficiencies of this system, but tend to argue that there is no need to be particularly sophisticated when trying to sell a product to a customer. Their approach is to offer an unbeatable price/quality combination, backed by heavy advertising. While they do not pretend to excel in their advertising effort, they do fervently argue that when it comes to understanding the consumer it is better to be a good listener rather than a good researcher. This is why their marketing managers take pains to travel around to their various dealerships and market locations and talk with dealers, retailers, and customers rather than just read market survey reports.

What these examples of less successful endeavors have shown is that for the simple approach to work in international marketing, one needs a strong seasoning of professional input. This is why the marketing people behind many of the most successful Japanese products in the United States are as likely to be American professionals as Japanese marketers.

What Is the Bottom Line?

In the end, the answers to the two questions posed at the outset can be repeated. No, there is nothing fancy about the back to basics tendency of Japanese marketing overseas. The Japanese successes overseas rest on two points: their high productivity manufacturing capability at home, and their painstakingly slow work on marketing programs assisted by skilled professionals in the foreign country (although often not until their initial efforts to go it alone have been unsuccessful).

Can Americans do it, too? No, because Western companies can not or will not adopt the long view required by the trial and error, simple and basic marketing practices. The constraints on the Western corporation from efficient financial and labor markets do not allow the long leash that Japanese companies have. The tighter marketing constraints mean that Western companies need and will have employees who try to "work smart," who want to avoid costly mistakes, and who attempt to learn principles and skills that can be used elsewhere in the company or in another firm.

The fact is that the Japanese back to basics approach requires great expenditures of human resources. Given their economic and social situation, it might be acceptable for the Japanese company to encourage nonprofessionalism, but in Western settings professionalism is probably necessary. The goal of the Western marketer should not be to copy the Japanese, but to do as professional a job as possible.

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REGION WATCH

Economic Developments in the Pacific Northwest

The economy rebounds

The second half upturn in the national economy materialized as expected. Real GNP rose at a 3 percent annual rate in the third quarter. The flash report indicates that the closing quarter GNP growth rate is about 3.2 percent. Slow growth was typical of the early months of 1985, but as the year progressed, there were a number of encouraging developments: industrial production advanced; further progress on inflation was reflected in modest increases in the Consumer Price Index; interest rates eased and the securities markets turned bullish; there was progress in adjusting foreign exchange rates to make U.S. goods more competitive in world markets; and there was even modest improvement in the still troublesome unemployment rate. In the closing quarter, producer prices rose moderately, but overall economic performance in the last half of 1985 was much improved.

The outlook: modest growth

Will the recently improved performance carry on throughout the new year? Or did the recent advances in production take place at the expense of growth during 1986? No one can foresee the future exactly, but when the favorable factors are weighed against the negative ones, the possibility of a recession during 1986 seems remote. More likely, the real GNP will expand, perhaps erratically on a quarterly basis, in a range of 2.5 to 3.5 percent during 1986. It is unlikely that consumer spending, which accounts for two-thirds of GNP, will give the same boost to the economy in 1986 as it did in 1985. Even if interest-rate incentives are offered to car buyers again, there is likely to be increased sales resistance by consumers who face a mountainous ratio of installment debt relative to their income levels. Yet, even a slowdown in consumer spending for durables would leave household spending growing by 3 percent in real terms. Some of that increase will consist of imports, so domestic production will not benefit on a one-for-one basis.

There is some reason for optimism in regard to foreign trade deficits, too. The Group V countries (Japan, Germany, France, the United Kingdom, and the United States) appear to have had some initial success in coordinating intervention in foreign exchange markets to reduce the value of the dollar. If agreement on the desirability of a weaker dollar can be sustained, the growth of imports will be dampened and U.S. production will become more competitive in both domestic and foreign markets. No worsening, and some improvement, is likely in the U.S. net export position during 1986 unless untimely protectionist moves by the United States dissolve the recent tentative steps taken toward international monetary cooperation.

The housing market remained quite vigorous during 1985, and is likely to continue to do well in 1986. With GNP growing moderately, and a policy position of lowering the value of the dollar relative to other currencies, the Federal Reserve is unlikely to tighten credit policy. Interest rates are therefore unlikely to rise much from their current levels. Recent interest rate declines have made housing more affordable to consumers.

Business-fixed investment is likely to be a soft spot in the economy during 1986. The preponderance of recent investment outlays has been associated with cost-reducing equipment since utilization rates in most industries are not high enough to justify capacity expansion.

Political factors

Tax reform bills under consideration in Congress at the time of writing could further reduce incentives to business investment. One version emanating from the House Ways and Means Committee has been condemned by *The Wall Street Journal* (November 26, 1985) as "a prescription for a 1986 recession." Other major pending legislation, such as the Budget, Tariff, and Farm Bills, involves proposed changes which could significantly affect the course of the economy in 1986.

Gramm-Rudman, the controversial deficit-reduction act, has an uncertain future as it heads for testing in the courts. Meanwhile, that legislation is forcing Congress and the President to consider spending cuts which would otherwise have been politically unacceptable. Gramm-Rudman has also provided momentum to the concept of privatization as a means of augmenting revenue through the sale of government assets (such as Conrail and BPA).

The recent upsurge in the stock market reflects greater optimism for the economic prospects during 1986. A growth rate in the 2.5 to 3.5 percent range is not utopia, but a favorable outcome which avoids both a congressional election year recession and an overly inflated economy. It is also conducive to stable interest rates.

The national outlook is generally good news for the Pacific Northwest. However, more than most regions, the Pacific Northwest is composed of export-dependent and import-competing industry. This competitive exposure is the principal reason the region has grown less rapidly than the country as a whole since the late 1970s. Significant structural adjustments have been made in the region, with moderating wage increases, shifts of employment out of forest products and shipbuilding and into high-tech and services, and control apparently achieved over energy costs. With those adjustments made, the region is poised to make progress if the expansion continues as expected. However, new efforts to impose fixed repayment schedules on the BPA debt threaten to undo progress made in controlling energy costs in the region, and the protectionist fervor in Congress is a major threat to importers and, ultimately, to exporters in the region.

Labor markets

Washington's labor markets have shown steady improvement during the course of 1985. Both total employment and payroll jobs as of October have registered increases over the year of about 3 percent, while the seasonally-adjusted unemployment rate fell to 8 percent—the lowest since 1980. Considerable joblessness remains, especially outside the Seattle metropolitan area, but the improvements which have taken place are clearly discernible throughout the state

Boeing success

Much of the improvements in the Washington labor markets are directly or indirectly linked to the stunning successes of the Boeing Company. Early in the year, Boeing forecasted an employment gain of just 3,000, but in fact the gain will be approximately 7,200. While these dramatic increases may not be equaled in 1986, another good year seems to be coming. For the nine months ending September 30, 1985, Boeing reports sales of $9.4 billion, compared to $7.0 billion for the same months of 1984. Earnings per share are also up from $1.83 to $2.53. In November, Boeing announced its biggest single sale ever, 116 aircraft for United Airlines with a value over $3.1 billion. Company spokespersons say that new employment gains are not expected to result from the order, but workers on the 737 and 747 lines enjoy an added measure of job security. A number of local subcontractors will also benefit directly from the order. Consequently, the Puget Sound faces the new year knowing that a solid base exists at Boeing to support continuation of the economic expansion.

Oregon employment gains encouraging

In Oregon, total employment rose 1.8 percent over the year through October. Since labor force growth has been slight, this modest growth in employment produced a spectacular decline in Oregon's unemployment rate. On a seasonally-adjusted basis the jobless rate declined from 9 percent in October 1984 to only 7.5 percent in October 1985. It is estimated that unemployment fell over the year by 20,000 persons, while 22,000 more persons are reported on payrolls. Most of the job gains have been in nonmanufacturing activity, but as the Oregon Department of Human Resources reports, less than usual seasonal declines in lumber and wood products employment are taking place. This is an indication that the contraction in forest products has finally bottomed-out, and that the future of an industry so basic to the Oregon economy can be viewed more optimistically.

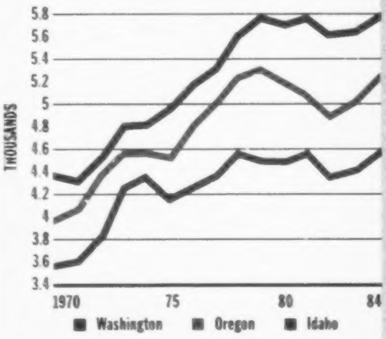
Idaho holds steady

The Idaho economy is not yet showing evidence of the improvements which are visible elsewhere in the Pacific Northwest. Unemployment rates have remained within a narrow range, increasing slightly toward the closing months of 1985. Employment statistics for October indicate a small decline over the year, and a more than seasonally expected drop in the labor force is evidence of declining job opportunities and a deterioriating economy. Yet, 1986 has a more promising prospect as Potlatch Industries has negotiated a favorable union agreement and reversed its decision to close its mills at Lewiston and Pierce.

Focus on personal income

Much of Regionwatch in this issue of *Pacific Northwest Executive* is focused on personal income trends. The Indicators on pages 12 and 13 present historical data on the sources of personal income and employment. Some of the interesting trends in the personal income series are shown on graphs in the Indicators section. One graph shows per capita personal income in the Pacific Northwest states as a percentage of the national average. The series for Washington shows three distinct dips down to exactly 100 percent of the national average: in 1933 in the grip of the Great Depression, in 1972 as the state struggled to recover from massive layoffs by a troubled Boeing Company, and again in 1984. Oregon personal income per capita has also fallen relative to the national average since 1978, and in Idaho the drop has been going on since 1974.

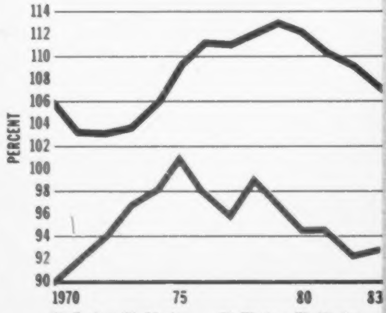
Figure 1: Personal Income Per Capita
In thousands of 1972 dollars



A compelling label is needed for declines since the late 1970s but, as with the sluggish national economy, the recent declines defy a simple, evocative explanation. Shifts of employment to unemployment and to lower wage industries are part of the story. Slower growth here than elsewhere in the country is also a factor. Unusual circumstances affecting several important regional industries simultaneously make their contribution: soft markets and increased competition in both agriculture and aluminum; and a flood of Canadian imports, increased domestic competition, and soft markets in wood products. And a conspicuous lack of major construction projects on the scale of the now moth-balled nuclear plants or the Trident base removes an element of stimulus that has often contributed to boom times in the region.

Looking at real per capita personal income makes one point clear (see Figure 1).

Figure 2: Eastern and Western Washington Personal Income
As a percent of average U.S. personal income per capita



No growth in real per capita personal income

During the post–1982 period of especially sluggish growth in the Pacific Northwest, real per capita personal income has not grown in the three states. A shaky plateau of sorts was reached in 1979, with minor moves up and down but no substantial progress over the ensuing five years. An examination of personal income per capita relative to the U.S. average for eastern and western counties in Washington shows that all parts of this state have suffered a decline relative to the nation as a whole since 1978 (see Figure 2). The gap between eastern and western counties appears to have widened since 1975.

A look at sources of earnings adds insight into the structural shifts the regional economy has experienced. Many sectors of the regional economy have shrunk as sources of personal income over the five-year period from 1979 to 1984 (see Table 1). These declining sectors include several resource-based industries, construction, building material suppliers, real estate, and a poignant symbol of technological and social changes, the motion picture theaters. The most rapidly growing sectors include chemicals, the high-tech electronics and instruments sectors, holding companies, and legal services (see Table 2). Most of the Pacific Northwest's gainers and losers changed much more rapidly than the national average, a symptom of the rapid structural change the region has undergone.

An examination of the components of personal income reveals that earnings have grown less rapidly than dividends, interest, and rents throughout the region. The dividend, interest, and rent component was the fastest growing source of income from 1979 to 1984 in all three states, with total growth over the six years of 80 to 93 percent (see Table 3). In contrast, earnings grew only 24 to 50 percent. Rapid growth in dividends, interest, and rents is leading some legislators to think of a new tax on "intangible income."

Table 1: Sectors Which Declined the Most as Sources of Earnings, 1979–84
percent change

	WA	OR	ID	US
Forestry and fisheries	−42.4	−23.0	− 7.9	−23.6
Mining	−17.8	−42.5	13.1	6.7
Construction	−37.8	−48.9	−20.2	− 6.1
Lumber and wood products	−29.2	−23.2	−28.6	−11.7
Fabricated metal	−23.3	−22.3	−15.5	−10.9
Stone, clay, and glass	−19.2	−37.7	−37.4	−12.1
Retail: building material and farm equipment	−27.6	−36.8	−18.4	− 7.9
Real estate	−67.3	−76.8	−78.0	−29.1
Motion pictures	−41.0	−47.2	−48.9	1.3

Table 2: Sectors Which Grew the Most as Sources of Earnings, 1979–84
percent change

	WA	OR	ID	US
Chemical and allied products	29.9	−22.8	62.7	3.7
Electric and electronic equipment	26.1	84.6	163.8	17.4
Instruments and related products	117.3	−3.6	153.4	18.8
Holding and other investment companies	342.4	246.4	264.8	260.7
Legal services	39.4	49.7	49.3	52.5

Table 3: Components of Personal Income, 1979–84
percent change

	WA	OR	ID
Earnings by place of work	49	24	33
Personal contribution for social insurance	47	40	51
Adjustment for residence	42	16	13
Net earnings by place of residence	33	23	32
Dividends, interest, and rent	91	80	92
Transfer payments	72	71	72
TOTAL PERSONAL INCOME	46	38	46

Source: Bureau of Economic Analysis, U.S. Department of Commerce

A leading indicator?

Like others seeking to discern the future course of the regional economy, the *Pacific Northwest Executive* staff have been searching for new indicators of the future trend of the economy. One of the leading indicators at the national level is an index of help wanted advertisements which is said to presage unemployment trends. If an index of the number of ads goes up, indicating that many employers are seeking new employees, then employment should increase and unemployment should decrease in the future. To test this theory for the Pacific Northwest, data were provided by the Portland *Oregonian* on the number of help wanted ads run each month from 1970 to 1984. The index seems to be a leading indicator of the end of recessions, but an unreliable indicator of downturns in the regional economy. For all three upturns in the economy, the help wanted index turns upward before the unemployment rate begins to fall, with a lead of one to four months. But when the economy is about to take a nosedive, as signaled by an increasing unemployment rate, the help wanted index sometimes turns down before and sometimes after the unemployment rate change.

Similarly, a help wanted index constructed from *The Seattle Times* ads seems to be a leading indicator of recessions some of the time, according to a manuscript from the Office of the Forecast Council in Olympia. This index led the downturn in employment for two recessions that started earlier in the Pacific Northwest than nationally, but did not lead for two others whose timing was coincident with the national recession.

Thus, for forecasting purposes, one is left with the problem of distinguishing coincident from early Pacific Northwest recessions, not to mention false signals from true ones. Analysts seeking a timely proxy for unemployment rates may find the two Pacific Northwest help wanted indices useful but, alas, they are not of much help for forecasting.

Electric utility developments

Like a Phoenix rising from the ashes, the issue of a fixed repayment schedule for Bonneville Power Administration's debt to the U.S. Treasury has come to the fore again. As Congress struggled to put together spending authorization and debt ceiling bills in October and November, a Wisconsin Congressman offered an amendment that would have established a fixed repayment schedule for the debt. The Office of Management and Budget continued to press for a five-year transition to market interest rates from the 3 percent rates BPA now pays. Either of these moves would have substantial impacts on the rates BPA charges regional utilities and Direct Service Industries for electric power. The Wisconsin amendment was defeated after a show of force by the region's congressional delegation. However, such initiatives are likely to continue as Congress wrestles with measures to balance the budget by augmenting revenues.

There have been a number of other developments on the electric power scene in the fall months. The Premier and other officials of British Columbia and B.C. Hydro have been visiting the Pacific Northwest in search of markets for their surplus power. Regional power planners may be able to seriously consider B.C. hydroelectric power as an option for future supplies, along with partially finished nuclear plants, conservation, and other options.

Conservation remains the most favorable supply option according to the Northwest Regional Power Council, whose second draft regional power plan was circulating for review during the fall. The ability of the region to effectively exploit potential conservation resources depends on the creation of new institutional mechanisms to permit resource deficit utilities to purchase conservation savings from utilities which have conservation opportunities but do not need additional power resources.

Economic development efforts

The merits of export promotion and foreign investment attraction efforts by our public officials may be debatable. However, regional politicians and business people continue aggressive efforts in this area. Governor Gardner of Washington made his second trip to the Far East since his election, stopping in Japan and China. He was accompanied to Japan by an entourage of "Washington Ambassadors," regional business people traveling at their own expense to represent Washington as a place to invest and do business. Portland's Mayor Clark has also visited the Far East to promote his city. In addition, several Washington Congressmen visited Japan in July, and Senator Evans made a trip in September. In Tokyo, shoppers were treated to an Oregon holiday display this year. The results of all of this promotion remain to be seen; the region awaits further investments and visits by Japanese tourists on their way to EXPO 86.

ECONOMIC CONFERENCE CALENDAR

► February 28, 1986
Seattle Economist Club
Economic Outlook Conference
Seattle University
Contact: Susan Doolittle
(206) 382-3337

► May 1–3, 1986
Pacific Northwest Regional Economic Conference
20th Annual Meeting
Missoula, Montana
Contact: Dr. Paul Polzin
(406) 243-5113

Worth Reading

The New Washington Economy: Implications for Public Policy

by Representative Daniel K. Grimm, Chairman, House Ways and Means Committee, State of Washington, Olympia, WA 98504, November 7, 1985, 14 pp. plus charts, no charge.

This report examines changes taking place in personal income, wage rates, employment, and industrial structure in Washington state during the eighties. Some profound changes are underway with disturbing implications.

►Low wages may be replacing unemployment as the state's major economic problem.

►The bulk of employment growth which has taken place in recent years has been in low-paying retail trade and the services sectors.

►Washington, historically a high per capita income state, is now a below-average income state.

►Dividend, interest, and rental sources of income are rapidly increasing.

►The disparate trends in wage income and property income make for widening income inequality.

The consequences of these trends include the following: the state has more working poor; there is a feminization of poverty; and there is a retrogression in economic opportunity which could lead to a downward spiral in incomes.

The most significant policy message is that Washington's regressive consumption tax system is placing an even heavier burden upon hard-pressed wage earners, while the most rapidly growing portion of income (interest, dividends, and rents) is lightly touched by the state sales tax. Another important policy message is that "...economic development based on tourism and high-tech assembly may actually make the problem worse since most of these jobs are low-paying."

This is a well-written, concise, documented, thought-provoking manifesto for tax reform which should be of interest to all *Pacific Northwest Executive* readers. It effectively addresses the symptoms of economic discord, but not the equilibrating market forces.

Bonneville Power Administration Forecasts of Electricity Consumption in the Pacific Northwest

by the Bonneville Power Administration, Portland, OR, August 1985, two volumes, no charge.

Northwest Conservation and Electric Power Plan

by the Northwest Power Planning Council, 850 SW Broadway, Suite 1100, Portland, OR 97205, August 1985, two volumes, no charge.

Readers interested in the long-term economic future of the Pacific Northwest may wish to consult the long-term electric power demand forecasts produced by the BPA and the Power Council. In order to construct an estimate of electric power demand over the next twenty years, these two agencies had to begin by constructing an economic forecast for that same time period. Long-term forecasts are not designed to predict the peaks and valleys of future business cycles, but to identify the long-term trends in the regional economy.

These two economic forecasts are developed from some basic assumptions about the national economy. Two major national trends with significance in the long run are a decline in the rate of growth of the labor force, and a decline in manufacturing employment as a proportion of total employment. The BPA forecast for the region shows employment rising at an average annual rate of 1.2 to 2.4 percent from 1985 to 2005, per capita income increasing 1.8 to 3.2 percent, and population growing 0.7 to 1.7 percent. Forecasts for each state in the region are contained in the Technical Documentation volume of the BPA forecast. The Power Council forecast projects larger possible ranges in the outcomes for employment (0.5 to 3.2 percent) and population (0.2 to 2.0 percent).

EXPO 86—Impacts on the Northwest

Tourism is an important and growing activity in the Pacific Northwest. Estimates by state agencies show tourist expenditures of $1.56 billion in Oregon and $2.75 billion in Washington in 1983. The magnitude of the numbers is very impressive; tourism has a definite impact on the region.

This impact is expected to increase in 1986 for two reasons. First, the states of Oregon and Washington have been actively promoting themselves as tourism destinations in recent years. The benefits of these advertising campaigns are now beginning to be felt. For example, the Seattle-King County Convention and Visitors Bureau reports an increase in the volume of inquiries from travel agents, an indicator of future tourist visits, as well as an increase in queries from individuals. The second reason is EXPO 86, a world exposition mounted by the Province of British Columbia in the city of Vancouver.

EXPO 86 is expected to bring millions of tourists into Vancouver, and many of these people will be traveling by automobile through the states of Oregon and Washington. Others will be coming by airplane through SeaTac and Portland International Airports on their way to Vancouver. The regional tourist industry expects short-term benefits from these visitors because they will need accommodations and food on their way, and because some of them may choose to spend part of their vacation visiting attractions in Oregon and Washington. Long-term benefits may result from the exposure these visitors will receive to the natural beauties and business opportunities in the Pacific Northwest. Some of these EXPO 86 visitors may come back to the Pacific Northwest for future vacations, or to conduct business here.

EXPO 86 is a two-edged sword, however. Oregon and Washington are major markets for EXPO 86. Some Oregonians and Washingtonians will be visiting EXPO 86 in lieu of vacationing in one or the other of these two states this summer. In addition to the traditional two-week family vacation, a variety of weekend recreational destinations may find themselves competing with EXPO 86 this summer for the disposable income of the Pacific Northwest's residents. Some of these "homegrown" tourist and recreational dollars will be lost to British Columbia.

The EXPO 86 Experience

EXPO 86 will be a world exposition located in Vancouver, B.C. It has been sanctioned by the Bureau International des Expositions in Paris as an official world exposition with transportation as its main theme. The exposition will be open from May 2 through October 13, 1986. A centerpiece of the exposition will be a gleaming, seventeen-story geodesic dome housing the world's largest Omnimax Theater. A redeveloped pier called Canada Place will provide a cruise ship dock, luxury hotel, and convention center. Exposition sites will be linked by a three-mile monorail loop and two gondolas. Eighty pavilions will be provided by governments and corporations. For the first time simultaneously at any world's exposition in North America, pavilions will be present from the Soviet Union, China, and the United States. The United States' section of the exposition will include a national pavilion as well as pavilions from California, Oregon, and Washington.

Washington's pavilion will feature a moving sidewalk from which visitors can view a large screen presentation of scenes from Washington. Upon exiting from the moving sidewalk, visitors will find themselves in an area with a number of kiosks, each containing a computer keyboard and monitor. By interacting with the computer, information can be requested about a large number of places, events, and businesses in Washington. Guides will be available to answer questions as well, and a gift shop will be near at hand. An outdoor plaza will provide a place for live performances by Washington artists.

At the time of writing, plans for Oregon's pavilion are not yet finalized, but preliminary plans for the pavilion have been released. Private sector fundraising is still underway to supplement the public funds. In addition, several state agencies are planning for increased workloads this summer.

Who Will Visit

Estimates of the total number of visitors to EXPO 86 have been generated by Market Facts of Canada, a consultant to the EXPO 86 Corporation. The estimates of visits (turnstile clicks) range from 13 to 26 million. The Washington Department of Transportation has chosen to use a figure of 20 million visits for planning purposes, while EXPO 86 itself has put out press releases projecting 15 million visits. It is apparent that there is significant uncertainty about how many people will visit EXPO 86.

Assuming 15 million visits to the EXPO 86 site, the Market Facts study states that Greater Vancouver will account for 4.8 million of these visits. Visitors from the rest of British Columbia will account for 1.7 million visits, and the rest of Canada will contribute 3.2 million visits. Washington,

Table 1: Estimated Visits to EXPO 86 from Selected States and Overseas[1]

	NUMBER OF VISITORS (1,000's)	AVERAGE NUMBER OF VISITS	NUMBER OF VISITS (1,000's)
California	502	3	1,506
Oregon	150	3	450
Washington	625	3	1,875
Overseas via SeaTac (40% of total overseas)[2]	134	2	268
Overseas via Portland (10% of total overseas)[2]	33.5	2	67

SOURCE: EXPO 86 Corporation, Vancouver, B.C., September 1985

1. Based on 15 million total visits to the EXPO 86 site.
2. According to EXPO 86, 50 percent of overseas visitors to B.C. will arrive via the United States. *Pacific Northwest Executive* has assumed that $\frac{4}{5}$ of this 50 percent will arrive via SeaTac and $\frac{1}{5}$ will arrive via Portland.

Oregon, and California will account for 3.8 million visits. The remaining 1.5 million visits will come from the rest of the United States and overseas. Specific estimates for selected areas are shown in Table 1.

Governmental Response

Washington's EXPO 86 Commission and the Tourism Development Division (part of the Department of Trade and Economic Development, hereafter called Tourism Division) are leading the way in defining Washington's response to the opportunities presented by EXPO 86.

Washington's EXPO 86 Commission is funded with a combination of $4.1 million in public funds and $550 thousand in private contributions (as of September 1985); it hopes to raise an additional $200 thousand to $300 thousand from the private sector. With these funds, a pavilion will be constructed and staffed, and advertising campaigns will be mounted to attract visitors to the state. The theme will be "Washington—The Best Thing Next to EXPO," and the pitch will be for visitors to spend one or more days in Washington after visiting EXPO 86.

In addition, the Tourism Division has an advertising budget of about $100 thousand, some of which may be used to promote visits to "beautiful, uncrowded Washington" by B.C. residents who are tired of all the hustle and bustle in Vancouver this summer, and by visitors from the Eastern provinces who might enjoy a visit to Washington on their way back home. In September, the Tourism Division sponsored a conference to inform the tourist industry of its plans and to describe the market opportunities EXPO 86 presents. The conference was attended by hotel and motel owners, travel agents, transportation companies, customs officials, the State Patrol, state park operators, and others whose businesses will be impacted by the increased traffic flowing up and down Interstate 5 (I-5) this summer.

Washington's Department of Transportation is planning for the increased load on the state's highway and ferry systems. A $300 thousand budget will be used to clean rest stops, provide extra EXPO-related signing on the highways, install a radio advisory system to warn motorists of border crossing delays, repair and maintain facilities, and print maps. The Highway Patrol will be assigning extra patrols to I-5 from Seattle north to the border. The state park system is making plans for the accommodation of many extra campground visitors.

In Oregon, similar planning efforts are underway. The legislature appropriated $2 million for construction of a pavilion at EXPO 86. Promoters in that state hope to raise about $1 million in private funds to augment the state appropriation. At an October tourism conference, delegates were urged to attract EXPO-bound tourists passing through the state, and Oregon's tourism development officials announced a strategy of attempting to get visitors to spend one or two additional days in Oregon. One theme of Oregon's media campaign will be that the Portland area is "just six hours from EXPO 86."

Impacts on Oregon and Washington

Estimates of the impact of EXPO 86 are extremely uncertain because so many of the variables involved can not be forecasted with any certainty. As Robert Hardy, head of the U.S. Customs Service in Region X said at the Tourism Division's recent conference, "All of the numbers are soft but huge." He followed that statement with cautionary comparisons to the Pope's visit to B.C. and to the Olympic Games in Los Angeles. The numbers were "soft but huge" in those cases as well, and actual attendance turned out to be less than expected. The New Orleans World Fair is another recent example of actual attendance falling well below expectations. Estimates of the number of EXPO 86 visitors are uncertain, as demonstrated by the large range in the number of expected visits, and may also be optimistic.

Pacific Northwest Executive has made orders-of-magnitude estimates of the expenditure and tax receipt impacts of EXPO 86 within the states of Washington and Oregon. These projections, shown in Table 2, are based upon assumptions concerning the number of visitors, the number of travel days within each state, visitor expenditures per day, and an inflation adjustment. The estimates of the number of visitors come from EXPO 86, and the remaining assumptions are drawn from the best available surveys of visitor expenditures in Washington and Oregon. The result of these calculations is that gross expenditures of $66 million would occur in Washington, and about $50 million in Oregon, if a total of 15 million visits are made by all visitors to the EXPO 86 site. The actual gross expenditures may be slightly lower, or substantially larger, depending on the number of people who actually visit EXPO 86.

Most of this potential bonanza, $50 million for Washington and $45 million for Oregon, will result from automobile and recreational vehicle traffic en route to Vancouver. Overseas travelers entering through the Northwest's two major airports are the next biggest segment of the EXPO 86 market, with $14.4 million in potential expenditures for Washington and $3.6 million for Oregon. All of this potential revenue results from the simple fact of propinquity; Californians and overseas travelers are likely to find it convenient to travel through the two states on the way to Vancouver.

The incremental impact of advertising campaigns, state pavilions, and other tourist attraction efforts is especially difficult to estimate. If 10 percent of all of Washington's EXPO 86 visitors choose to spend an extra day in Washington to see the sights (or because of a delay in crossing the border into B.C.), Washington would gain another $1.6 million in gross expenditures. If 10 percent of the Californians choose to spend another day seeing more of Oregon, Oregon would gain $1.3 million.

Washington's Tourism Division has estimated that tourists spent $2.75 billion in Washington in 1984, or $2.94 billion in 1986 dollars. An increase of $66 million due to EXPO 86 would be an increase of 2.2 percent over the 1984 level, a substantial but not breathtaking increase. For Oregon, an increase of $50 million can be compared to the estimate of 1983 visitor expenditures in Oregon, expressed in 1986 valued dollars, of $2.26 billion. The increase due to EXPO 86 thus equals 2.2 percent.

These increases in income within Washington and Oregon will be offset to some degree by income of state residents that is diverted to B.C. due to EXPO 86. Not all spending by Washington and Oregon residents in B.C. due to EXPO 86 is properly a charge against recreational industry receipts in the same two states since some of these people would have vacationed in Canada anyway. About 2.5 percent of Oregon's residents vacationed in Canada in 1985 according to a recent survey. No comparable survey exists of Washington residents, but since Washington is closer to the border a larger percentage of its residents, perhaps 4 percent, would normally vacation in Canada. Using the same per person expenditure rate as was applied to visitors passing through Oregon and Washington, Oregonians may spend $9.7 million, and Washingtonians may spend $67.2 million in B.C. due to EXPO 86. Subtracting the expenditures Washington and Oregon residents normally would make in

REGION WATCH

Pacific Northwest Personal Income Indicators[1]

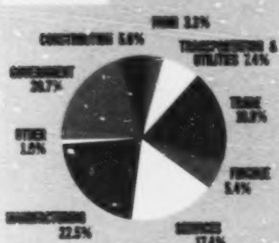
MAJOR VARIABLES, 1984

	WA	OR	ID
Total[2] Personal Income (in millions $)	55,633	31,052	10,093
Population (in thousands)	4,349	2,674	1,001
Personal Income per Capita (in $)	12,792	11,611	10,092
Rank Among States			
Personal Income	18	31	43
Personal Income per Capita	18	33	45

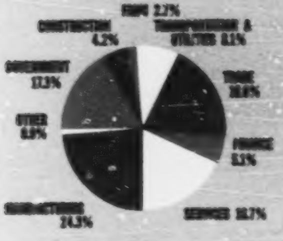
SOURCES OF PERSONAL INCOME

earnings by place of work, 1984

WASHINGTON



OREGON



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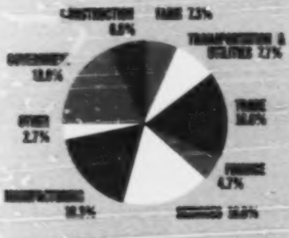


TOTAL PERSONAL INCOME

in millions $

YEAR	WA	OR	ID
1929	1,149	632	227
1930	1,030	581	225
1931	845	490	171
1932	638	371	127
1933	599	352	107
1934	713	434	190
1935	796	458	192
1936	937	562	236
1937	1,001	581	215
1938	980	565	218
1939	1,044	614	227
1940	1,135	658	240
1941	1,535	870	298
1942	2,257	1,251	438
1943	2,941	1,683	538
1944	3,234	1,723	560
1945	3,141	1,696	553
1946	3,188	1,837	609
1947	3,313	2,035	663
1948	3,633	2,287	737
1949	3,631	2,283	725
1950	4,063	2,514	779
1951	4,477	2,809	872
1952	4,757	2,980	953
1953	5,013	3,019	912
1954	5,131	2,979	920
1955	5,401	3,217	969
1956	5,668	3,440	1,063
1957	6,018	3,435	1,120
1958	6,156	3,519	1,144
1959	6,539	3,812	1,208
1960	6,772	3,930	1,236
1961	7,093	4,061	1,304
1962	7,634	4,306	1,394
1963	7,830	4,539	1,424
1964	8,193	4,881	1,464
1965	8,867	5,329	1,679
1966	10,068	5,763	1,708
1967	10,995	6,104	1,814
1968	12,220	6,642	1,529
1969	13,269	7,258	2,176
1970	13,827	7,795	2,378
1971	14,463	8,504	2,605
1972	15,598	9,541	2,981
1973	17,736	10,824	3,536
1974	19,964	12,166	4,113
1975	22,484	13,305	4,360
1976	25,175	15,106	4,842
1977	28,032	17,070	5,379
1978	32,913	19,725	6,212
1979	37,878	22,384	6,878
1980	42,510	24,580	7,673
1981	47,000	26,586	8,623
1982	49,862	27,100	8,780
1983	52,097	28,545	9,322
1984	55,633	31,052	10,099

PERSONAL INCOME, 1984

in millions $

by major sources and earnings by industry

	WA	OR	ID
TOTAL PERSONAL INCOME BY PLACE OF RESIDENCE	55,633	31,052	10,099
Nonfarm Personal Income	54,387	30,478	9,587
Farm Personal Income	1,246	574	512
Population (in thousands)	4,349	2,674	1,001
Per Capita Personal Income (in dollars)	12,792	11,611	10,092
DERIVATION OF TOTAL PERSONAL INCOME			
Earnings by Place of Work	38,249	21,403	7,003
Less: Personal Contribution for Social Insurance	2,417	1,423	443
Plus: Adjustment for Residence	734	−388	34
Equals: Net Earnings by Place of Residence	36,566	19,591	6,594
Plus: Dividends, Interest, and Rent	10,938	6,400	2,025
Plus: Transfer Payments[3]	8,129	5,060	1,479
COMPONENTS OF EARNINGS BY PLACE OF WORK			
Wages and Salaries	32,322	17,757	5,530
Other Labor Income	3,075	1,859	579
Proprietors' Income	2,852	1,787	894
Farm	864	360	321
Nonfarm	1,988	1,427	572
EARNINGS BY INDUSTRY			
Farm	1,246	574	512
Nonfarm	37,003	20,829	6,491
PRIVATE	29,084	17,128	5,230
AGRICULTURAL SERVICES, FORESTRY, FISHERIES AND OTHER	300	155	60
Agricultural Services	166	85	54
Forestry, Fisheries and Other	134	70	5
MINING	77	37	129
CONSTRUCTION	2,124	900	473
MANUFACTURING	8,603	5,211	1,278
Nondurable Goods	2,306	1,268	603
Food and Kindred Products	701	488	343
Paper and Allied Products	600	339	64
Printing and Publishing	363	238	63
Chemicals and Allied Products	351	49	115
Durable Goods	6,298	3,942	675
Lumber and Wood Products	1,075	1,740	359
Machinery, except electrical	447	438	149
Primary Metal Industries	581	305	4
Transportation Equipment	3,141	269	11
TRANSPORTATION AND PUBLIC UTILITIES	2,829	1,725	536
Railroads, Trucking, Water, and Other	1,718	954	254
Communication	862	471	127
Electric, Gas, and Sanitary Services	249	301	116
WHOLESALE TRADE	2,536	1,505	423
RETAIL TRADE	3,868	2,300	742
Food Stores	713	404	152
Auto Dealers, Service Stations	534	450	152
Eating and Drinking Places	923	534	147
FINANCE, INSURANCE, AND REAL ESTATE	2,067	1,096	328
Banking	604	285	122
Other Finance, Insurance, and Real Estate	1,462	811	206
SERVICES	6,041	4,011	1,263
Business Services	1,140	572	284
Health Services	2,263	1,594	394
GOVERNMENT AND GOVERNMENT ENTERPRISES	7,919	3,701	1,261
FEDERAL, CIVILIAN	1,806	774	287
MILITARY	1,112	86	132
STATE AND LOCAL	5,000	2,841	842

NOTES:

1. Bureau of Economic Analysis, U.S. Department of Commerce.
2. Does not include real estate property taxes paid by homeowners. In 1984, property taxes paid by homeowners were $[illegible] million in Washington and $[illegible] million in Oregon. Residential property taxes in Idaho, which include rental units up to four-plexes, were $[illegible] million.
3. Transfer payments are defined as payments to individuals for which they do not render current services.

PERSONAL TAX AND NONTAX PAYMENTS, 1984

In millions $

	WA	OR	ID
FEDERAL GOVERNMENT (net of refunds)	5,648	2,731	654
Individual Income Tax (net of refunds)	5,556	2,647	637
Individual Income Taxes (Gross)	6,953	3,288	845
Less: Refunds	1,397	641	207
Fiduciary Income, Estate and Gift, Nontax	91	84	17
STATE GOVERNMENTS	612	1,562	314
Individual Income Taxes	0	1,195	230
Death and Gift Taxes	23	35	2
Motor Vehicle Taxes	183	23	15
Other Taxes	19	17	11
Nontax Payments	386	293	57
LOCAL GOVERNMENTS	390	257	128
Other Local Taxes	19	20	2
Local Nontax Payments	371	237	126
STATE AND LOCAL PROPERTY TAXES[2]	54	6	0
TOTAL PERSONAL INCOME	55,633	31,052	10,098
Less: Total Personal Tax and Nontax Payments	6,703	4,559	1,096
Equals: Disposable Personal Income	48,931	26,493	9,002
PER CAPITA DISPOSABLE PERSONAL INCOME	11,251	9,906	8,965

TRANSFER PAYMENTS, 1984[3]

In millions $

	WA	OR	ID
GOVERNMENT PAYMENTS TO INDIVIDUALS	6,821	4,437	1,261
Old-Age, Survivors and Disability Insurance	3,175	2,213	665
Medical Insurance Payments	908	713	177
UNEMPLOYMENT INSURANCE BENEFITS	516	263	94
INCOME MAINTENANCE BENEFIT PAYMENTS	833	340	83
Aid to Families With Dependent Children	303	104	21
Food Stamps	136	134	33
VETERANS BENEFIT PAYMENTS	399	374	130
BUSINESS PAYMENTS TO INDIVIDUALS	246	160	47
TOTAL TRANSFER PAYMENTS	8,129	5,060	1,479

PERCENT CHANGES IN PERSONAL INCOME

YEAR	QTR	WA	OR	ID
1980	1	3.2	2.9	5.1
	2	1.1	0.1	−1.1
	3	3.6	2.7	3.2
	4	4.0	2.7	4.1
1981	1	3.3	2.5	4.5
	2	2.3	1.1	1.3
	3	2.9	2.5	4.1
	4	0.4	−0.5	−1.0
1982	1	1.6	0.4	−0.8
	2	0.7	0.0	0.4
	3	0.1	0.5	0.4
	4	1.6	1.2	3.0
1983	1	1.3	1.9	2.2
	2	1.4	1.8	1.3
	3	0.5	0.9	0.6
	4	2.1	2.6	3.4
1984	1	0.8	2.0	2.3
	2	1.6	2.1	0.7
	3	2.6	2.2	3.6
	4	0.3	0.8	0.4
1985	1	1.4	1.8	1.7
	2	0.5	0.2	0.0

An Explanation of Personal Income

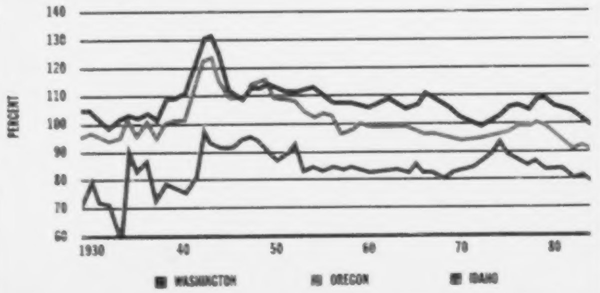
State personal income accounts constitute the single most important source of information about the income conditions of a state's residents. Used in conjunction with other statistics such as population, employment, and price changes, personal income data not only form the basis for determining people's well-being on a geographic basis, but are useful in making economic forecasts, assessing market opportunities, and determining the allocation of payments for governmental programs. Personal income data are an indispensable tool for analyzing regional economic change.

A state's personal income is defined as the income received by, or on behalf of, its residents, excluding those who are temporarily working abroad. It consists of income received by individuals from all sources: wages and salaries of employees, net income of proprietors, dividends, net interest, rent, and transfer payments. Personal income is a description of the income people receive, as distinct from Gross National Product, which measures the value of goods and services produced.

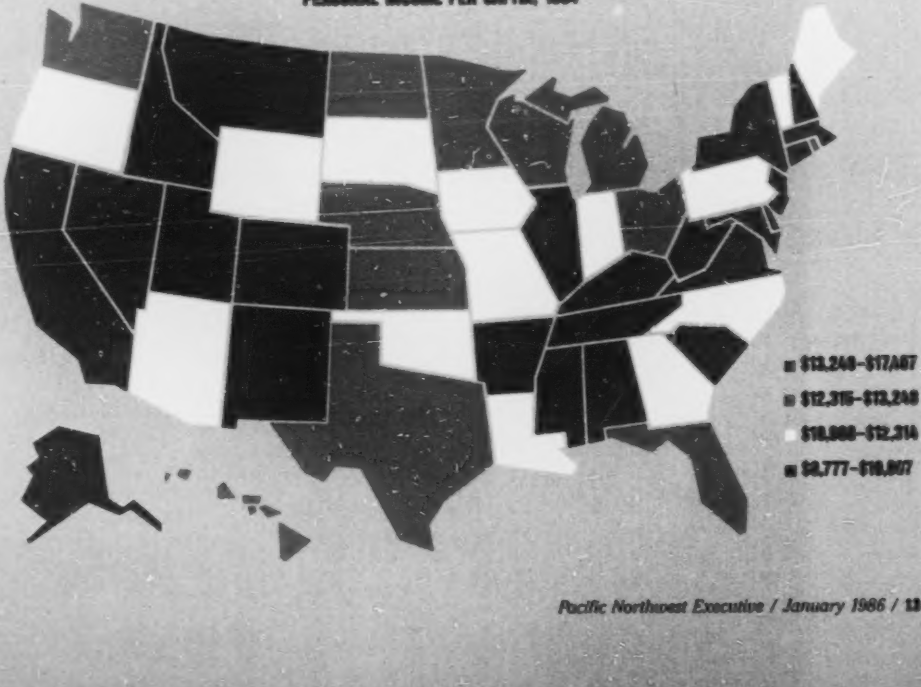
The Bureau of Economic Analysis (BEA), a section of the U.S. Department of Commerce, estimates personal income based on data supplied by the employment security departments of each state and other governmental agencies. The BEA reports national personal income estimates monthly, while it publishes estimates for states quarterly with a lag of about five months. These estimates are refined as more complete data become available. The BEA makes county estimates on an annual basis, with publication lagging more than a year. Although the quality of data varies, the methods of estimation assure consistency across states and with national aggregates. The BEA publishes its findings, along with a number of other statistics and analyses of the U.S. economy, in the monthly *Survey of Current Business*. Historical data for the states, along with a complete description of sources and methods for assembling personal income, is contained in the BEA's report *State Personal Income: 1929-82*, which is available in many libraries and may be purchased from the U.S. Government Printing Office.

PER CAPITA PERSONAL INCOME

As percent of U.S., 1929 – 1984



PERSONAL INCOME PER CAPITA, 1984



Canada while on vacation leaves a rough estimate of the net income losses due to EXPO 86: $6.4 million for Oregon and $30.6 million for Washington. On balance, EXPO 86 will have positive expenditure impacts on the Pacific Northwest economy since tourist expenditures in these states are expected to exceed net losses due to Pacific Northwesterners visiting EXPO 86.

The exposition is not likely to result in positive net revenue impacts for the two state governments, at least as far as direct impacts are concerned. The estimates in Table 2 show that Oregon stands to take in $1.9 million in additional personal income and gasoline taxes, while Washington stands to gain $4.5 million in B&O, sales, and gasoline taxes. Total state expenditures will amount to about $3 million in Oregon, and upwards of $5 million in Washington. To realize net benefits from the EXPO 86 campaigns, the two state governments need to count on attendance greater than the 15 million visits, or realization of indirect and long-term benefits.

In addition to the direct benefits in the form of increased expenditures and tax revenues, indirect and longer-term direct benefits will also likely result from EXPO 86. Indirect benefits result from the expenditure of the extra incomes generated by EXPO 86. Multiplier analysis shows direct and indirect income generation of one to two times direct expenditures. Longer-term benefits may result because portions of the pavilion investments will be reusable for other promotional activities after EXPO 86 closes, and because some of the increases in regional tourism resulting from EXPO 86 may not be seen for two or three years. Washington's centennial celebration is coming up in 1989, and some of the goodwill generated by EXPO 86 experiences may be translated into increased tourism in conjunction with the centennial.

Table 2: Estimated Benefits of EXPO 86 to Washington and Oregon

WASHINGTON ►	
Auto travelers from CA, 4 days	$32.50 x 1.103 inflation adjustment x 63% auto or RV travelers x 4 days x 0.502 million CA visitors = $45.349 million total expenditure.
Auto travelers from OR, 1 day	$32.50 x 1.103 inflation adjustment x 80% auto or RV travelers x 1 day x 0.150 million OR visitors = $4.30 million total expenditure.
Air travelers from overseas via SeaTac	$32.50 x 1.103 inflation adjustment x 3 days x 335 thousand overseas visitors x .4 via SeaTac = $14.411 million total expenditure.
10% of all visitors spend an extra day in WA	$32.50 x 1.103 inflation adjustment x 10% of CA, OR, and overseas visitors = $1.563 million total expenditure.
GROSS EXPENDITURES BY EXPO 86 VISITORS IN WA	$65.624 MILLION.
STATE TAX REVENUES	
Fuel expenditures and tax revenues	Auto travelers / 2.7 persons per car x 290 mi. across WA on I-5 / 17 mpg x 2 trips = 5.513 million gallons consumed.
	Gallons consumed x $1.20 per gallon = $6.616 million fuel expenditures.
	Gallons consumed x 18 cents per gallon tax = $0.992 million fuel tax.
B&O tax receipts	Services rate (0.5%) x (gross expenditures — fuel expenditures) = $0.295 million.
Sales tax receipts	5.4% of (gross expenditures — fuel expenditures) = $3.186 [all food assumed to be from restaurants].
TOTAL TAX RECEIPTS	$4.473 MILLION.
OREGON ►	
Auto travelers from CA, 4 days	$32.50 x 1.103 inflation adjustment x 63% auto or RV travelers x 4 days x 0.502 million CA visitors = $45.349 million total expenditure.
Air travelers from overseas via Portland	$32.50 x 1.103 inflation adjustment x 3 days x 335 thousand overseas visitors x .1 via Portland = $3.602 million total expenditure.
10% of all visitors spend an extra day in OR	$32.50 x 1.103 inflation adjustment x 10% of CA and overseas visitors = $1.254 million total expenditure.
GROSS EXPENDITURES BY EXPO 86 VISITORS IN OR	$50.205 MILLION.
STATE TAX REVENUES	
Personal income tax	Approximate amount of gross expenditure paid as personal income (78%) x 1984 state personal income tax as percent of personal income (3.8%) x gross expenditure = $1.488 million.
Fuel taxes	Auto travelers / 2.7 persons per car x 310 miles across OR on I-5 / 17 mpg x 11 cents per gallon x 2 trips = $0.470 million.
TOTAL TAX RECEIPTS	$1.958 MILLION.

Forecast Accuracy in Washington

Regional economic forecasts are *de riguere* these days. Few large firms will construct a business plan without consulting an economic forecast. States regularly formulate economic forecasts in order to predict their tax revenues. And the business press routinely reports prognostications from national and local economists.

The latest predictions generate great interest since so many decisions turn on the future direction of the economy. Although economic forecasts are valuable to decision makers only if they are reasonably accurate, surprisingly little attention is given to their inaccuracy. Just how cloudy are the crystal balls?

The first issue of *Pacific Northwest Executive* characterized the economic forecasting processes in Idaho, Oregon, and Washington. Here the knotty issue of forecast accuracy is examined for one of those states. Washington's total employment and personal income forecasts were chosen for assessment because it was possible to assemble a fairly complete history of this state's forecasting efforts.

Methods for Assessing Forecasts. Assessing forecast accuracy is a difficult task. A number of alternative procedures and several criteria for evaluating the seriousness of errors are available. They break down into two basic ways of evaluating forecasts: the *process* and the *track record* approaches.

The process approach examines the soundness of the model at the time the forecasts are made. If the structure of the model is correct and its assumptions reasonable at the time, then the forecast is considered good regardless of the actual outcomes. Good forecasts are often wrong due to unanticipated events or because the forecast itself leads decision makers to take actions to avoid undesired outcomes.

An *ex post* process evaluation is difficult to implement since it involves an assessment of the rationale underlying the forecasts at the time the predictions were made. A description of the Washington state forecasting model as it existed when each economic prediction was prepared is not available. Lacking such a description, an assessment of the validity of the forecasting process is impossible.

An alternative approach is to examine the state's track record by comparing the forecasts to the outcomes observed after the fact. This approach is nothing more than measuring errors with the benefit of hindsight and says little about the validity of the forecasts at the time they were made. While the process of preparing forecasts often produces insights useful to policy makers, for those interested solely in *ex post* results the track record approach is useful. Playing Monday morning quarterback may seem like a cheap shot since all forecasts are bound to be wrong to some degree. However, the track record approach may provide insights into sources of systematic error.

►A quarterly forecast called "Economic and Revenue Forecast for Washington State" is currently available from the Economic and Revenue Forecast Council in Olympia, WA. This forecast has been prepared and issued quarterly since 1979, although published forecasts were issued at irregular intervals at least as far back as 1978. The agency issuing the forecast has shifted from the Office of Financial Management (OFM) (December 1983), to the Department of Revenue (February 1984), and recently to the Office of the Economic and Revenue Forecast Council (June 1984 to present). The scope of the forecast shifted from an economic forecast only to an economic and state revenue forecast in 1980.

While seemingly simple, the track record approach is complicated by data revisions and alternative criteria for assessing errors. What actually occurred depends on when you make your observations. Initial employment estimates are first published by each state's Employment Security Department (or equivalent) two months after the fact. The preliminary estimates are then revised a month later, and may be subject to further revisions months or even years later as more complete information becomes available. Personal income numbers are published quarterly by the Bureau of Economic Analysis (BEA) of the U.S. Department of Commerce, but are revised repeatedly. BEA formerly revised data twice a year, but since October 1984 it has published revisions quarterly.

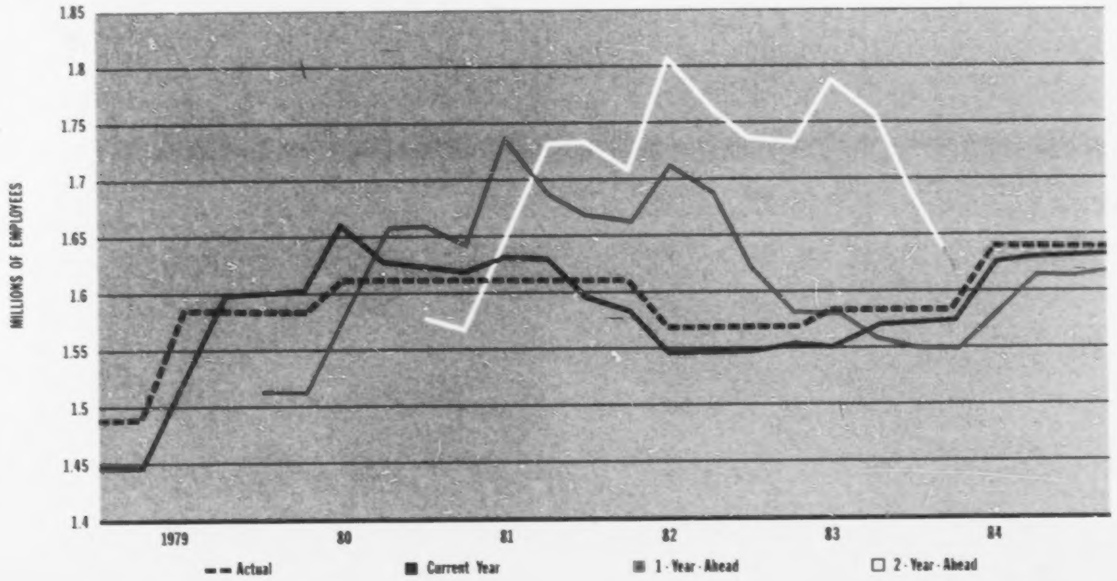
Revisions of employment and personal income estimates by 1 percent up or down are fairly common, with revisions of as much as 4 percent occurring from time to time. Estimates as much as ten years old can be revised, making "history" a rather uncertain subject. In preparing a forecast, analysts face a choice between using revised data whose accuracy is fairly certain, or imprecise recent data. They are always aware that any recent data points are tentative.

A number of criteria for assessing forecast errors are possible. One can concentrate on errors in forecasting the *magnitude* of a variable, the amount of *change* in the variable, or the *percentage* change. For cyclical forecasting, anticipating *turning points* may be the focus. In measuring errors, the size may be measured by the mean absolute error, the mean squared errors, and the Theil statistic. The assessment in this article focuses on simple descriptive measures of errors in forecasting the levels of variables. However, turning point issues are intertwined with magnitude issues even for the relatively limited period of forecasting history which is available.

Results of Assessment. To assess forecast accuracy one can compare actual data with forecasts of the current year (the year during which the forecast was made), with forecasts of the year ahead, and with forecasts of the second year ahead. Figure 1 shows these series for total employment in Washington. The actual series shows strong growth from 1978 to 1980, followed by almost imperceptible growth into 1981. Then the severe recession of 1982 set in and employment dropped in 1982, followed by slight growth in 1983 and moderate growth in 1984.

The current year forecasts track the actual data fairly well, although the forecast has performed better since 1982. In percentage terms, the current year employment forecast has only once been more than 3.7 percent off the mark, and often was less than 1.5 percent off. Since actual data accumulate during the year, one might expect

Figure 1: Actual and Forecasted Employment for Washington State



a current year forecast to track the actual numbers quite closely.

The one-year-ahead forecasts are less accurate, particularly prior to 1982. Furthermore, the forecasts fluctuate considerably from quarter to quarter as new information comes in and swings the forecast up or down. As a percent of actual, the one-year-ahead forecasts have ranged from as little as 0.02 percent to as much as 9.8 percent off the mark, with most of the large errors in the late 1980 through mid-1982 period. The period from 1980 to the present included the unanticipated OPEC II oil price increases and shifting national fiscal and monetary policies which have made forecasting particularly hazardous. Aside from this unusual period, the one-year-ahead forecast has been reasonably accurate most of the time.

Finally, the two-year-ahead forecast is even less accurate, with proportionately greater quarter to quarter swings. These forecasts vary from the actual data by as little as 1.6 percent and as much as 16 percent. The two-year-ahead track record ends at just the point in time that the current year and one-year-ahead forecasts begin to improve significantly in accuracy.

A similar story can be told for personal income forecasts (see Figure 2). The current year forecast tracks the actual data fairly closely, with errors ranging from 0.2 percent to 7.7 percent. The one-year-ahead forecast shows noticeably larger errors ranging from 0.3 percent to 11 percent. The two-year-ahead forecast ranges further from the mark, with errors of 0.2 percent to 17 percent.

These results are just as one might expect: the further out the forecast horizon, the more difficult it becomes to identify the course of the economy. There is an apparent correlation between the current year, one-year-ahead, and two-year-ahead forecasts; the direction of error (above or below actual) is usually the same in all three forecasts. This is an encouraging result since it indicates that the forecasting process produces roughly the same results when presented with only a few more data points. However, the tendency of the forecasts to remain above or below actual for several quarters or even years may indicate systemic problems in the forecasting model.

If business decisions depend on knowing the direction the economy is headed — up or down — the state's forecast is a quite reliable guide. If they depend on knowing the level of particular variables such as employment or personal income, then the forecast horizon is a critical variable. The forecasted level of these variables is prone to greater and greater errors as the forecast horizon extends out from the current year to one and two years into the future.

Perhaps the only effective response to this problem is to forecast often and to rethink critical decisions often. For example, the state sets its budget for a biennium, a two-year period, using the forecast as a guide to potential revenues during that period. The forecast is not reliable to do this budgeting exercise without at least one, if not several, mid-course corrections. Consequently, the "off year" legislature revises the budget created a year earlier, and the governor takes action late in the biennium to keep state spending in line with revenues

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►*The Theil statistic used in this article is defined as:*

$$U = \sqrt{\frac{\sum_t (F_t - A_t)^2}{\sum_t (A_t - A_{t-1})^2}}$$

where F is a forecasted percentage change in a variable, A is the actual percentage change observed after the fact, and the subscript refers to the time period. If the forecasted values are exactly equal to the actual values, the numerator of the statistic equals 0. The denominator measures the error due to a naive "same change" forecast, which would be 0 if the percentage change from t – 1 to t is the same as that from t – 2 to t – 1. If the ratio U is less than 1, then the forecast in question is superior to the same change alternative. If the ratio U is greater than 1, then the forecast being assessed is subject to greater error than the same change alternative. The statistic is named for the economist Henri Theil who first suggested its use in assessing forecast accuracy.

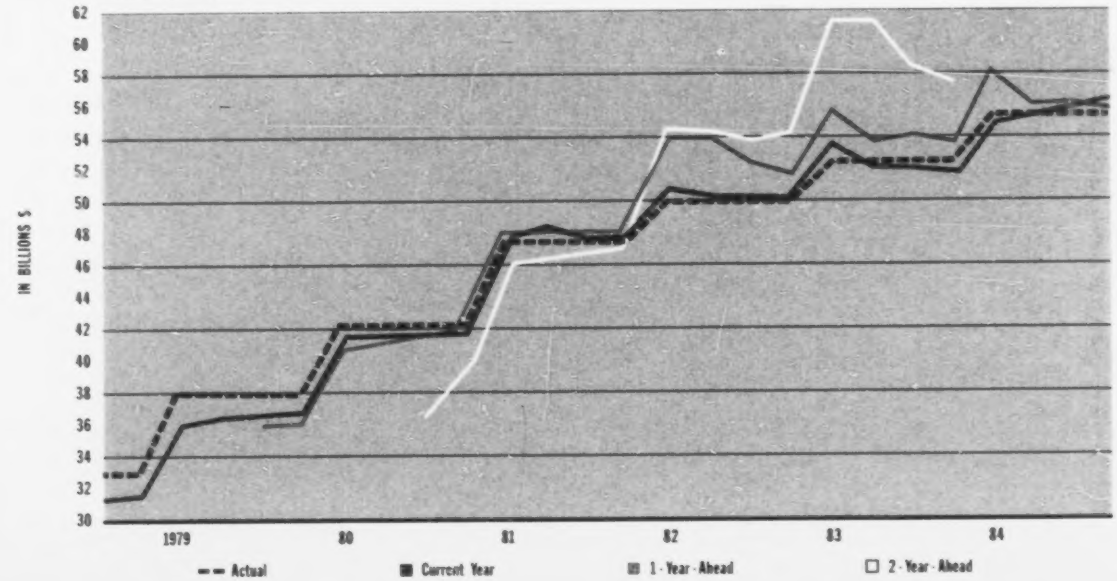


Figure 2: Actual and Forecasted Personal Income for Washington State
In current dollars

using the latest available forecasts. Thus, errors in the two-year-ahead forecast do not have much impact on the state's decision making; the current year and one-year-ahead forecasts are the really important ones.

Comparisons with Alternative Forecasts. Another way of looking at the question of forecast accuracy is to compare errors in the state's economic forecast with those of alternative purely statistical procedures. One of these is called a *same change* forecast. It assumes that the change in the employment and income variables for the prior year will be replicated in the current year. The *Pacific Northwest Executive* staff also estimated a somewhat more sophisticated *autoregressive* model that "remembers" changes from year to year all the way back to 1960. This model was generally less accurate than the state's economic model. However, availability of historical data restricted the autoregressive model to annual observations, making for a weak test of the capability of this alternative forecast.

Table 1 – Theil U Statistics

EMPLOYMENT
State Forecast vs. Same Change Forecast

	U	IMPLICATION
Current Year	0.37	State superior
1 Year Ahead	0.96	State superior
2 Year Ahead	1.60	Same change superior

PERSONAL INCOME
State Forecast vs. Same Change Forecast

	U	IMPLICATION
Current Year	0.23	State superior
1 Year Ahead	0.40	State superior
2 Year Ahead	0.68	State superior

A comparison of the errors made by the state and the same change forecasts is possible using the Theil statistic. A comparison of the state's employment forecasts to the same change alternative shows that the state's forecasts are superior to the alternative for the current year and one-year-ahead forecasts, but for two-year-ahead forecasts, the state's forecasts are not as accurate as the same change alternative (see Table 1). For personal income, the state's forecasters do a better job than the same change alternative for all three forecast horizons.

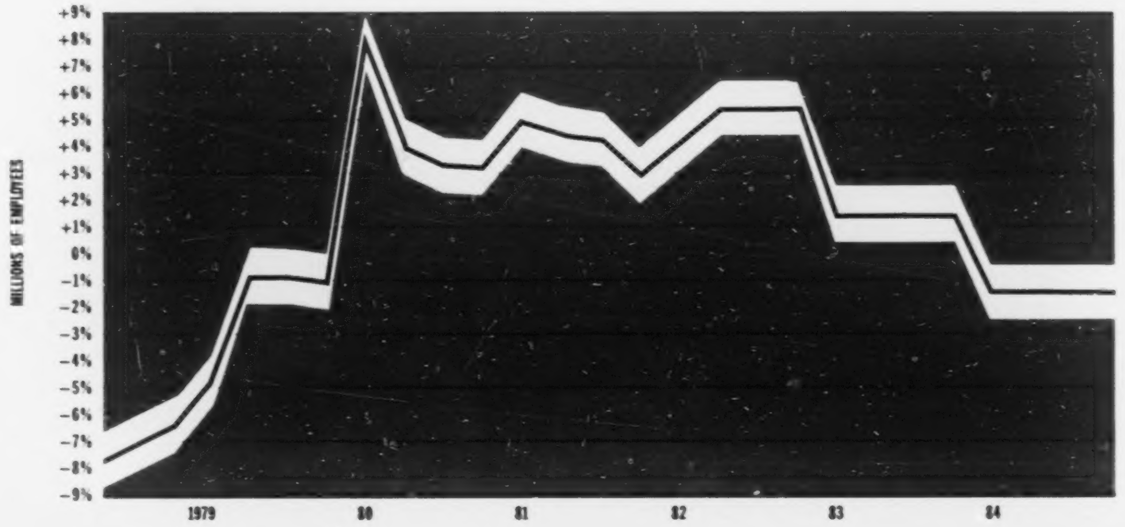
One could compare the state's forecasts to those conducted for other regions, but no regional forecast studies are available. However, Stephen McNees, a Boston Federal Reserve Bank economist, has conducted extensive investigations of the accuracy of national economic forecasts. His examination of five different quarterly forecasts of the period 1976 (second quarter) to 1983 (second quarter) shows average absolute percentage errors in one-year-ahead total civilian employment forecasts ranging from 1.0 percent to 1.6 percent, and a range of 0.9 percent to 1.3 percent for two-year-ahead forecasts. The average absolute error in the state's one-year-ahead forecast of total nonagricultural employment is 1.5 percent, which falls in the range for the national forecasts McNees assessed. However, the state's two-year-ahead forecasts show an average absolute percentage error of 7.3 percent, well above the errors of the national forecasters. The large average error is due to errors in forecasting for the 1981–83 time period.

One could conclude from these comparisons that the state's one-year-ahead forecasts are not markedly better or worse than national economic forecasts. However, the state's two-year-ahead forecasts missed one difficult period so badly that their reliability is questionable.

The state's forecasting procedure starts with a national forecast which is subject to some degree of error, and builds a state forecast predicated on that national outlook. The state forecast is hence unlikely to be *more* accurate than the national forecast. To come out with roughly comparable degrees of accuracy is comparatively good forecasting performance.

Data Revisions. Just how important are the data revisions which plague forecasters? Occasionally revisions can be very trouble-

Figure 3: 95% Confidence Bound
autoregressive forecast of current year



some. The state's forecasters went through a special run of the forecast when the Bureau of Economic Analysis released large revisions of the state's personal income data early last spring.

An assessment of this issue is possible by calculating revisions of the employment and personal income series as a percentage of the value in the previous historical period. Inspection of the resulting percentages reveals that revisions can occur for just about any point in the data set. No piece of history is so sacrosanct that it can not be revised! However, the revisions tend to occur in certain years, and are often reported in the second or third quarters. They often affect several years worth of data and do not appear to be correlated with the business cycle.

The employment data consist of quarterly observations of total annual employment from 1960 to the forecast date (n = 329), and the personal income data consist of quarterly observations of total annual personal income from 1970 to the forecast date (n = 185). A statistical investigation of the revisions shows that 82 out of the 329 observations for employment were revised, 45 upward (mean = + 0.6 percent) and 37 downward (mean = − 0.32 percent). For the personal income series, 70 of the 185 observations were revised, 43 upward (mean = + 0.63 percent) and 27 downward (mean = − 0.53 percent).

These data are consistent with the notion of a normal distribution with a mean of zero. Forecasters could use this information to establish confidence bounds on their forecasts to account for the likelihood that the data as currently known still contain errors. For example, one can calculate confidence bounds for the autoregressive forecast of employment mentioned earlier. Figure 3 shows that the 95 percent confidence intervals result in rather small shifts of forecasted employment up or down. For large, nonlinear forecasting models such as the state's model, more complicated procedures would be required.

Summary and Conclusions. The state's current year employment and personal income forecasts are quite accurate, both in tracking the actual level of these variables and in catching turning points promptly. The one-year-ahead forecasts are prone to substantial errors in predicting the exact level of employment and income. The major errors were made in a time period characterized by many unusual events which few forecasters anticipated. The two-year-ahead forecasts are still less accurate. There is not sufficient forecasting history to make definitive statements about the state forecasters' abilities to pick out turning points in the economy one and two years ahead, but at least for the one-year-ahead forecasts, the record looks quite good to date.

Compared to national forecasts of employment, the state's employment forecasts are subject to about the same margin of error. The exact importance of data revisions has not been established, but the frequency and size of revisions suggests that additional work would be warranted to establish confidence bounds for probable revisions.

There are several reasons for hoping that forecast accuracy will improve in the future. Smaller, more frequent personal income data revisions should result in smaller forecast errors. The state's forecasters now solve the Data Resources, Inc. (DRI) model directly if they disagree with DRI's forecast. The national and state forecasts will thus use consistent assumptions. Another unusual period with many unanticipated events affecting both the national and regional economies, could, of course, occur as it did in 1981–82. Unfortunately, there is little forecasters can do to improve accuracy in such situations except to try to adjust as fast as possible to a rapidly changing economic scene.

► Craig Justice, an MBA student and a member of the **Pacific Northwest Executive** staff since its inception, will be leaving us to pursue advanced studies in Japan. His participation has aided immeasurably in the production of Regionwatch. We are grateful for the contributions he has made, and wish him well.

Washington's Tax Puzzle

by Nita Rinehart

The jigsaw puzzle of tax policy in Washington state remains in stubborn, separate pieces. The challenge of uniting the pieces into a cohesive picture is an enduring one. Why do some business leaders and public policy makers persist in trying to solve this puzzle? They keep trying because the problems caused by the current tax structure persist.

WHO GETS TAX RELIEF?

One puzzle piece is a paradox. We know that more jobs are created by small, homegrown businesses, yet the small changes we do make in our tax system are invariably designed to help larger out-of-state existing businesses which might move to our state. An October 1985 study done by David Birch for the Seattle–King County Economic Development Council shows that, on balance, small new companies are creating the majority of net new jobs. Birch defined "on balance" as the net new startups, expansions, and relocations into King County taking into account the losses due to closings, layoffs, and relocations out of King County. Birch determined the net changes by examining the behavior of each business in King County that is listed with Dun & Bradstreet. Among the key findings were the following:

- Of all net new jobs created between 1980 and 1984, 73 percent were generated by firms with nineteen or fewer employees.
- Of net new jobs created between 1980 and 1984, 100 percent were generated by establishments in business for four years or less.

These facts indicate that small and new businesses are the most dynamic sectors of the economy. With them rests the greatest promise of jobs and economic growth. Yet tax relief flows elsewhere.

A July 1985 survey entitled "The Job Generators: A Survey of Seattle–King County Business Expansion and Retention" done for the Seattle–King County Economic Development Council reveals the following statistics:

- In the past ten years, 64 percent of King County firms have expanded within King County. Less than 1 percent of that group came to King County from a location outside the county.
- Of King County firms, 46 percent expect to expand or relocate in the next five years. Of these firms, only 5.5 percent plan to move out of King County.

Clearly, net new jobs in King County are being created by small, new, local firms.

SMALL, HOMEGROWN BUSINESSES AND TAXES

The puzzle piece composed of the tax impact on homegrown business startup and expansion seems to keep falling off the table. The 1984 study by Peat, Marwick, Mitchell and Co., discussed by Stephen Duzan in the July 1985 issue of *Pacific Northwest Executive*, contains the following two relevant facts:

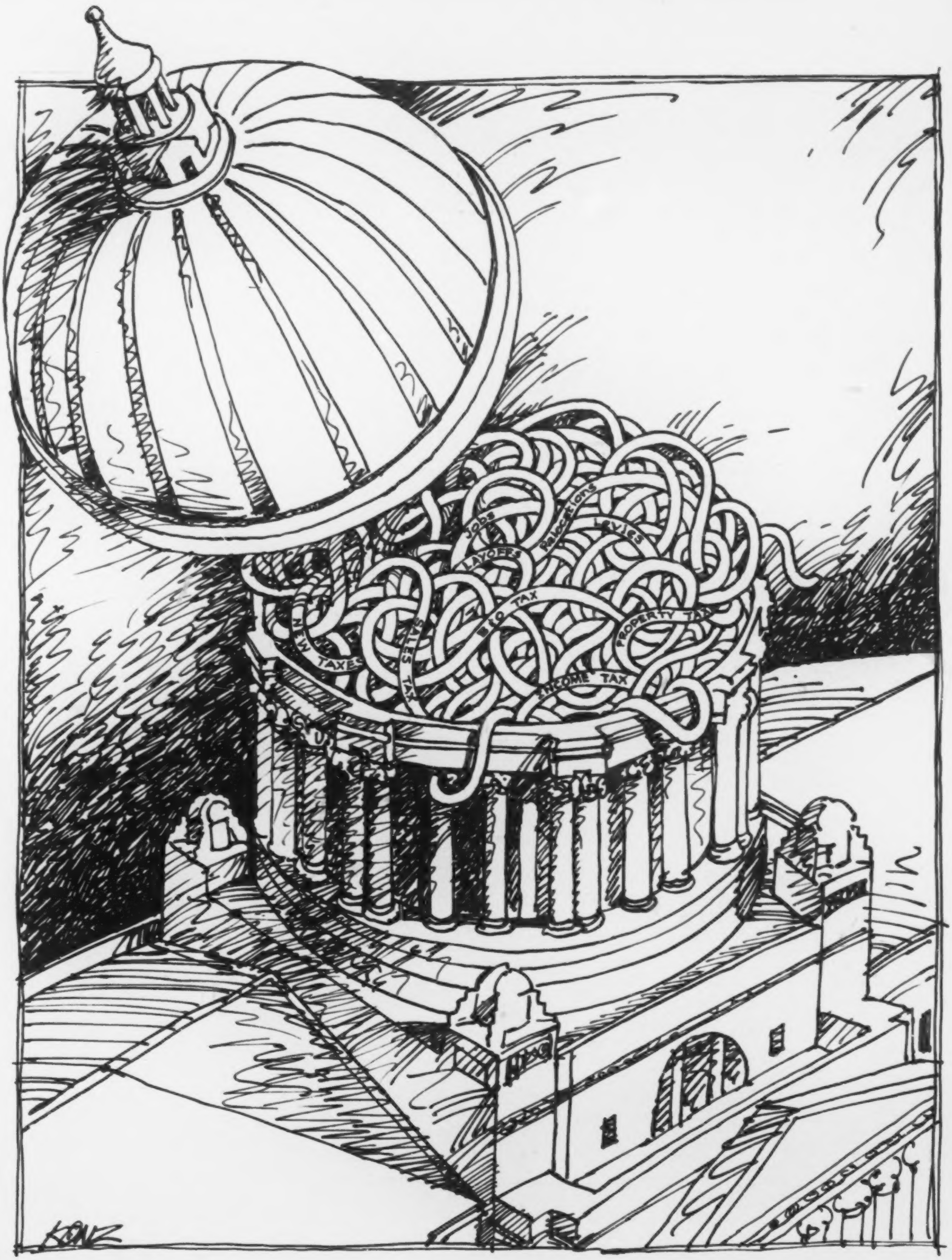
- Washington state's total tax levy on the new expanding businesses studied was generally higher than in competing states.
- Washington's taxes were the highest imposed on sixteen of the twenty-eight companies studied and were among the three highest for twenty-two of the twenty-eight companies.

In other words, our tax system places a great burden on dynamic, homegrown firms —the very ones we should be nurturing.

The Business and Occupation Tax. Perhaps the most maligned piece of the tax puzzle is the business and occupation (B&O) tax. The base of the B&O tax, gross receipts, causes the greatest difficulty to startup and small businesses. It also causes problems during economic downturns for any business whose profits go down. There are several ways to restructure business taxes to make them more sensitive to a business' ability to pay. A two-tiered B&O tax or a value-added tax are two possibilities, but resistance to these proposals is understandably strong from businesses that would pay higher taxes if the tax were related to net profits. We must realize that a sudden and dramatic tax increase on one segment of the business community will not solve the puzzle.

Businesses and the Sales Tax. Many people think of the B&O tax as the only state business tax. However, roughly 37 percent of the state taxes paid by businesses are sales taxes, while only 36 percent are B&O taxes and 10 percent are property taxes. The sales tax provided more than half of the state's general fund tax revenue in the 1983–85 biennium. This tax is obviously a major puzzle piece.

Some people argue that businesses don't pay taxes, they pass them on. The fact is that some businesses pay taxes, but others


Jobs
Relocations
Levies
Layoffs
B&O Tax
Property Tax
New Taxes
Sales Tax
Income Tax
KONZ

simply collect them. The determining factors are levels of competition and length of time in business. A new firm in a competitive field finds it difficult to pass a tax on to customers.

Washington's combined state and local sales tax rate is the second highest in the nation. The sales tax contributes to the capital problems of new, small, expanding businesses that do not have access to adequate capital.

Washington is one of five states that imposes a sales tax on the value of labor in business construction. Of those five states, Washington has the highest rate. Washington is one of twelve states that taxes all machinery and equipment with the full sales tax. Of those twelve states, Washington again has the highest rate.

INDIVIDUALS AND THE SALES TAX

Another part of the puzzle is the uneven impact of the sales tax on individuals. If your household earns $7,500 per year, you pay 3.7 percent of that income in sales tax. If you have an annual income of $75,000 per year, you pay only 1.9 percent of that income in sales tax. People in the lower income group pay nearly twice the percentage of their income in sales tax than the higher income group. As more and more wage earners move into lower paying service jobs, this uneven effect will become more widespread.

Some people say we don't have a tax problem, we have a spending problem. However, when the business leaders of the prestigious Washington Roundtable make an in-depth examination of our educational system and, instead of cutting spending, recommend programs that would cost an additional $160 million to $175 million per biennium, one begins to suspect that overspending is not the problem.

For the 1983–85 biennium, 61 percent of the state general fund was allocated for education, 27 percent for social services, and 11 percent for general government. Current efforts by the Gardner Administration to streamline management in all agencies should put to rest the charges of extravagance in state government. Unlike the federal government, the state budget has to be and is balanced every biennium. Unfortunately, attitudes of distrust and dismay about what is going on at the national level spill over onto state government, making debate at the state level more difficult on everything from tax changes to higher salaries for professors.

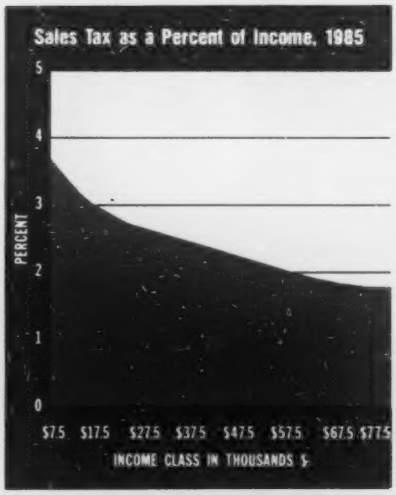
RELIEF OR REFORM?

Tax *relief* means paying lower or deferred taxes. If you could grant relief to everyone who needs it, and have no adverse consequences, you would not even need to think about reform.

While the Peat, Marwick study identified some of the major problems of the current tax system, the solutions it proposed ignored the other side of the tax problem—the budget problem. Peat, Marwick recommended the adoption of a series of tax exemptions to correct some of the worst aspects of the system. Their recommendations included sales tax deferrals or exemptions for construction, and business equipment and B&O tax exemptions for new and not yet profitable companies. Their total package of recommendations would have resulted in a revenue reduction of $100 million to $500 million per biennium.

The difficulty with trying to solve the problem with exemptions alone is that education, including higher education, would have to absorb large budget cuts. If budget reductions were not made, the tax rate would have to be raised in order to make up the revenue loss. Thus a high rate would get higher, and the firms that did not manage to get exemptions would get hit with an even worse tax system.

Tax *reform* means creating a new tax system in which some businesses and individuals get relief while others pay more. Reform does not mean simply subtracting some current taxes and adding some new ones. No one tax by itself is good or bad. No one tax meets the tests of fairness, stability, and sound economic effect; only a balanced system of taxes can do that. That balanced system is what the tax puzzle would look like if it were put together.


Sales Tax as a Percent of Income, 1985

Personal Income Tax. Is a personal income tax one of the puzzle pieces that is missing? The answer is yes if you accept the interdependence of the problems within the tax system. Reducing the sales tax to give relief to new, small businesses and low income individuals and reducing or restructuring the B&O tax to give relief to new businesses that have not yet become profitable is only possible if there is a source of replacement revenue. The most obvious source is the one measure of wealth that Washington state government does not now use—income.

At this point, the current tax system and the prospects for changing it may look more like a bowl of spaghetti than a jigsaw puzzle. However, there are some new elements in the debate now. The first of these is a changed attitude among some businesses.

Businesses' Attitudes Toward Taxes. Surviving a recession when profits were low or nonexistent has made some businesses think again about restructuring the tax system. The recession was the first time paying the business and occupation tax was a hardship for many businesses. Now business people are speaking with less unanimity about taxes.

Clearly, the biggest change in attitude is occurring among those businesses that are treated most unfairly—the new and small businesses. The 1985 Seattle–King County Economic Development Council Study confirmed that the greatest dissatisfaction with the tax system was found among small businesses, new businesses, and King County–based businesses (as opposed to branch plants of companies from elsewhere). In fact, the level of dissatisfaction varied directly with the size and age of the firm.

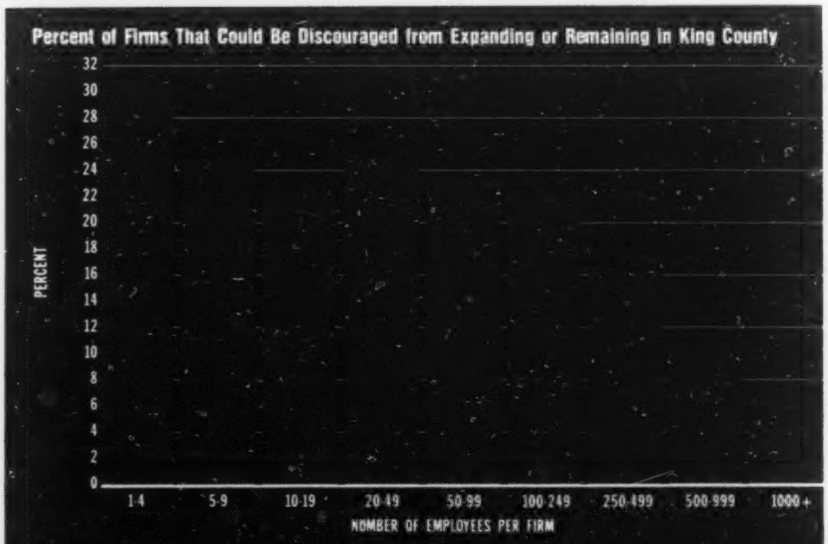
- It was felt by 31 percent of the firms with four or fewer employees and 25 percent of the firms with five to nine employees that state and local taxes could discourage them from expanding or remaining in King County.
- Only 4.5 percent of the firms with 1,000 or more employees and 10.7 percent of the firms with 500 to 999 employees felt the same way.
- Of the firms established since 1980, 30.5 percent felt that state and local taxes could discourage them from locating in King County.

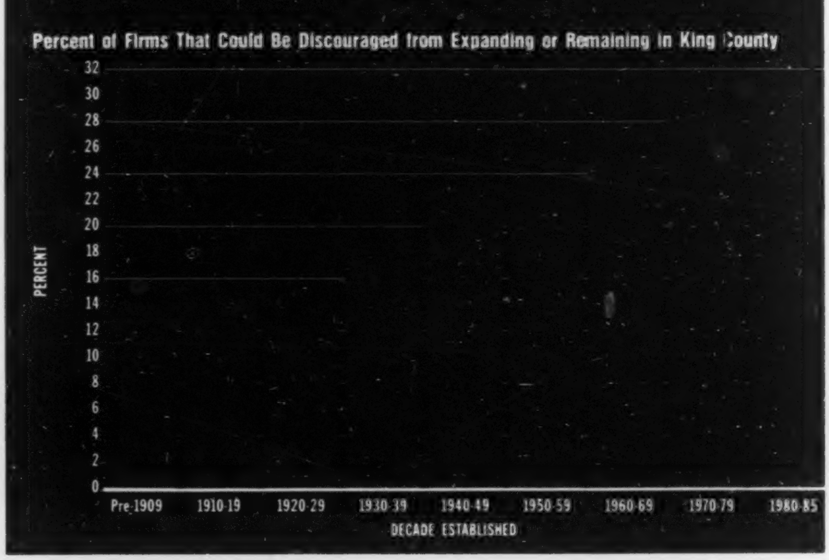
- Less than 18 percent of the firms formed before 1940 felt the same way.

What we are seeing, then, is a realization by some of the key members of our business community that the tax system is in need of reform.

Progress Toward Reform. Serious proponents of tax reform have recognized the impossibility of restructuring the state's taxes according to a textbook model. Political and economic realities don't fit the ideal model. Business people have been wary of reform proponents; they fear a tax reformer's definition of reform is higher taxes on business and more money for government. Traditional reformers have been wary of business people; they fear businesses do not want to pay any taxes. However, neither business people nor legislators nor citizen reformers working independently of each other can effect a major change in the tax system.

One place where conversations among these groups have begun is the Senate Ad Hoc Committee on Tax Revision. Interested business people, legislators from both political parties, and involved citizens have begun the process of listening to each other's concerns. One example of the progress that has been made is the discussion of the term *fair.* Fair to a policymaker is usually defined in relationship to an individual taxpayer's ability to pay and the relationship between what others in the same category pay. Fair to a business is the amount and timing of the tax it has to pay. No group has to give up its definition, but it is crucial that the different meanings of the word are understood.


Percent of Firms That Could Be Discouraged from Expanding or Remaining in King County


Percent of Firms That Could Be Discouraged from Expanding or Remaining in King County

The Constitution and an Income Tax. In 1932 the voters of Washington state approved a graduated net personal income tax. A court challenge abrogated that income tax vote. The State Supreme Court ruled that income is property. Since all property within a class must be taxed equally, there can be no graduated tax. In 1972 the voters approved a constitutional limit on property taxes of 1 percent of true and fair value. This 1 percent limit applies to income since the court has defined income as property. Consequently, the most likely way of establishing a personal income tax is through the constitutional amendment process: two-thirds of the House, two-thirds of the Senate, the Governor, and a majority of the voters must say yes to make any change in the state constitution.

In our Senate Ad Hoc Committee on Tax Revision we agreed on some hunches about what would be necessary to win approval of a ballot measure for an income tax. (I call them hunches because we never did a scientific poll to confirm our instincts.) We agreed that tax reform proposals should do the following:

1. Implement a new tax system, not just add a new tax.
2. Include a single rate personal income tax.
3. Provide for a substantial reduction of current tax rates.
4. Provide fair and predictable treatment of all taxpayers.
5. Be easy to understand and administer.

There is no single proposal for reform that enjoys widespread support now. There is growing support for the careful development of a proposal during the next year so that voters may have an opportunity to choose a new tax system in November 1987.

A solution to the tax puzzle can be found if all proponents of change work together. All participants in the effort will have to put aside their prejudices, suspicions, and notions that their solution to the puzzle is the only valid solution. I am not proposing a blue-ribbon task force or even any group with a formal structure. I do propose that the conversations among all proponents of change continue.

Nita Rinehart is a Washington State Senator from the 46th Legislative District. She is chair of the Senate Ad Hoc Committee on Tax Revision.

A CATALYST FOR ECONOMIC REBIRTH

The Washington State Development Loan Fund

by Jesse C. Wineberry

Stan Davis is president and owner of Genesis Telecommunications, Inc. (GTI), a manufacturer of telecommunications equipment. GTI is a creditworthy small business that plans to begin making and marketing a new innovative product named The HAT, a headset for automobile telephones. This new enterprise would create jobs in an economically disadvantaged area, but Davis needs a $350,000 loan to get it off the ground. He has approached several financial institutions. All but one have turned him down. A bank has agreed to provide $250,000 in financing, but only if Davis can get the remaining $100,000 from another lender.

THE JETS
Julio
OUT OF BUSINESS

The newly enacted Washington State Development Loan Fund is one such financing source that can help entrepreneurs like Stan Davis. In 1985, Governor Booth Gardner and the state legislature began a new session with economic development as a top priority. In response to the Governor's request for the tools to build a long-term economic development program, I introduced legislation creating the Washington State Development Loan Fund. This new capital resource promises to become a catalyst for the economic rebirth of our state's decaying communities.

The Washington State Development Loan Fund, or more simply the Fund, is a $5 million dollar revolving loan fund capitalized with federal Community Development Block Grant monies. In a time when federal funds are declining, the state has taken an innovative step to capture these funds and recirculate them in distressed areas throughout the state. The Fund is authorized to provide financial assistance of up to $350,000 to businesses whose projects will create new jobs in either rural or urban economically distressed areas. The Fund is a component of the Washington State Department of Community Development which is headed by director Richard Thompson. A seven-member loan committee appointed by the director will review the loan applications and either approve or deny them.

Why Is It Needed?

The major impetus for the Fund was the chronic unemployment found in Washington's economically distressed areas. The term *distressed* best depicts communities, both rural and urban, that have been the unfortunate victims of either a sudden industry shutdown or long-term unemployment.

Although Washington's unemployment rate declined somewhat in 1985, from 9.5 percent in March to 7.5 percent in October, there are still many distressed areas suffering from double-digit unemployment. Stevens, Okanogan, and Pend Oreille Counties in rural northeast Washington have October 1985 unemployment rates of 11 to over 13 percent. Cowlitz, Pacific, Skamania, and Wahkiakum Counties in southwest Washington have October 1985 unemployment rates in the 12 to 13 percent range. These high county unemployment rates are due primarily to sudden timber mill closures.

Even in prosperous counties such as King County, whose 6.3 percent October 1985 unemployment rate is less than the statewide average, there exist economically distressed communities. Seattle's central district, for example, has had an unemployment rate of over 13 percent for many years.

These unemployment figures do not include long-term discouraged workers whose unemployment benefits have expired, part-time workers, or persons ineligible for unemployment benefits because they have never had a job. Many economists contend that the inclusion of these groups often doubles an area's unemployment rate.

In 1983, the Washington State Emergency Commission on Economic Development and Job Creation recommended that the state create flexible development finance tools. These tools would target rural and distressed areas for seed, start-up, and long-term financing utilizing Community Development Block Grant Funds. The Commission's Capital Capacity Subcommittee concluded that state and local efforts were crucial to induce private investment and fill the *capital gaps* in distressed areas. *Capital gap* is the margin of capital needed to provide a business firm with 100 percent financing on a project.

Capital is a vital ingredient in any economic development plan. The interest rate, availability, and amount of capital are often critical factors in determining whether a business project will fail or succeed. Unfortunately, capital is usually the hardest to obtain in the areas where it is most desperately needed. The Subcommittee's research found that small businesses that undertake projects in economically distressed areas are generally denied financing from conventional private lenders such as commercial banks, savings and loan institutions, finance companies, or venture capital firms. When the private sector is reluctant to loan money to businesses in distressed areas, capital gaps are thereby created in these rural and urban communities.

The Fund was enacted to fill these capital gaps, and thereby promote economic development in underserved communities. The state Department of Community Development will not finalize the Fund's exact financing methods until later this year. One thing is certain, however. The fund will not compete with private lenders, but instead will seek to encourage their financing of businesses in distressed areas. The intent of the Fund is to supplement and leverage additional private capital that would not otherwise be lent. The state merely acts as a partner with the business and private lender to induce new investment.

How Does It Work?

To be eligible for this program, a business must meet the following criteria:

- **The business project must be located in an economically distressed area.** An economically distressed area is defined by statute as either (a) a county where average unemployment for the previous three years exceeds the state average by 20 percent, or (b) a distressed census tract community within HUD entitlement cities such as Seattle, Tacoma, Vancouver, and Spokane.

- **The business project must plan to create new jobs in the distressed area, 51 percent of which must be for low and moderate income workers.**

- **The business must attract additional private capital to finance the project.**

To illustrate how the process works, let's go back to our fictitious entrepreneur, Stan Davis. Davis has located a vacant warehouse in Seattle's central district where he could expand GTI's new production and assembly operations. The central district is a distressed census tract community with over 13 percent unemployment. GTI expects to create eighty-five new jobs for this area.

Davis meets with his banker to discuss the financing requirements of this project. The total cost of the expansion is $400,000. The bank conducts its normal credit analysis of GTI, including reviewing its financial statements, assessing its debt/equity ratio, and evaluating its collateral and projected revenues. The bank decides to finance no more than 65 percent of GTI's appraised value. It is only willing to loan GTI $250,000 at 13 percent interest over a ten-year period. GTI has already attracted $50,000 of equity to the project. Furthermore, the bank's commitment to the project is predicated on GTI now filling the remaining $100,000 capital gap.

This is where the Washington State Development Loan Fund comes into the picture. Davis meets with officials of the City of Seattle Department of Community Development (DCD) to explain the public benefits of his project and to request $100,000 in assistance through the Fund. Once GTI and the Seattle DCD have negotiated the financing package, it is submitted to the State Development Loan Fund Committee for evaluation and final approval or denial. The Committee approves the $100,000 loan which closes GTI's financial gap, thereby ensuring the bank's loan of $250,000.

In this example, the Fund filled a capital gap thereby inducing a loan from a private lender. GTI received the needed financing for its expansion and production of a new product. The Fund assisted in the growth of a small business while also helping to create over eighty new jobs in a community suffering from high unemployment. This is just one example of how the Fund can enable government and the private sector to work together to spur economic development in Washington's distressed areas. This same process would apply to rural areas with the County Department of Community Development as the local governmental participant.

Capital Is the Fuel

As Governor Booth Gardner stated in the July 1985 issue of *Pacific Northwest Executive*, "The private economy is the engine room of Washington's ship of state." If this is the case, then capital is the fuel. By inducing private lenders to make capital available to underserved areas, the Washington State Development Loan Fund can become a catalyst for the economic rebirth of our state's rural and urban communities.

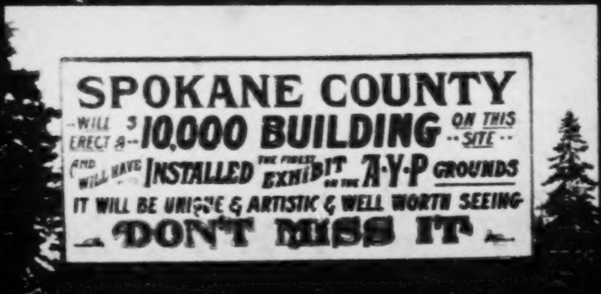
For the Fund to be successful, both governmental officials and private lenders must carefully evaluate the costs versus the benefits of each business project. The many risks involved with each transaction must be fully assessed, with the goal being to maximize the efficient use of limited state capital resources.

The Fund is not expected to single-handedly solve Washington's pressing problem of high unemployment. However, it can be an excellent financing tool by which the public and private sectors can create productive new jobs, promote the growth of small businesses, and revitalize our economically distressed communities. ılı

Jesse Wineberry is a Washington State Representative from Seattle's 43rd District. Formerly with Chemical Bank, he received his B.A. in business administration from the University of Washington. He now serves as chair of the House Subcommittee on Small Business and is a member of the House Trade and Economic Development Committee.

GTI
Genesis Telecommunication, Inc

Gallery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- Business Climate
- The CPI

A Look at Washington State Budget Issues

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From the Business Community

Economic development is good business. It's good business because it contributes to economic stability and enhancement both statewide and locally; basic services and education benefit from resulting growth in income, employment, and output. This growth increases tax yields for local and state government. It's good business because it results in spinoffs and new enterprises through stimulating research, new ideas, entrepreneurship, and startup.

Economic development itself is a growth industry. From virtually every county in our state a cadre of economic development professionals and organizations has emerged, with structured working relationships through Team Washington and a revitalized and strengthened state Department of Trade and Economic Development. As a growth industry, economic development has the commitment of top management: our state's CEO, Governor Gardner, has made it his number one priority and upper management positions in economic development have been created by such corporations as Washington Water Power, General Telephone Company of the Northwest, Rainier Bank, Pacific Northwest Bell, and Puget Power.

Economic development has lots of partners. Businesses, governments, communities, ports, education, and labor all participate in local and state level organizations devoted to economic and trade development. This partnership is evident in every local economic development council in our state as well as the Economic Development Partnership for Washington, the Washington Council on International Trade, the Washington State International Trade Fair, and many others. This partnership is particularly evident in higher education and research, which benefit economic development through groups such as the Washington State High Technology Board, the Washington Technology Center, and the Washington Council for Technology Advancement.

These local and state organizations deserve your support. This support is an investment for business growth in the Pacific Northwest.

Bill Grinstein

Bill Grinstein
President
Economic Development Partnership
for Washington

PACIFIC NORTHWEST Executive

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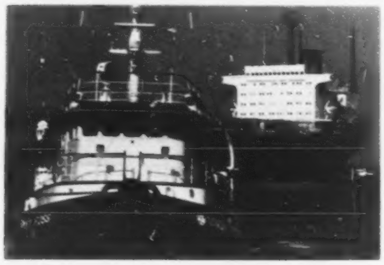
INTERNATIONAL TRADE: Let's Keep It in Perspective

by Donald R. Marsh

International trade is receiving an extraordinary amount of attention. Conferences, seminars, speeches, radio and television programs, and entire sections of newspapers and magazines abound on the subject. How important international trade is, the threat of foreign competition, the trade deficit, the deindustrialization of America, the overvalued dollar, free trade versus fair trade, and the new rules of trade are but a sampling of the issues involved. Topics such as unemployment caused by imports, the need to export more, how to export, export trading companies, the "miracle" of Japan, investing in foreign countries, and how to attract investment to the United States are also being examined. When one observes that it is often the same people attending the same programs over and over, one wonders whether both they and society wouldn't be better off if they were off trading, rather than spending so much time sitting around talking about it.

With all the attention given to international trade come proposals and calls for government to do more to promote it. Much legislation is proposed and some is enacted. Some bills curtail trade through protectionism, while others expand it through subsidization in a variety of forms. Legislators and executive branch people go overseas endeavoring to develop markets for private exporters. State and city governments set up international trade departments. At the national level, in addition to all the other things the federal government does for international trade, there are calls for a Department of International Trade and Industry, an unabashed name imitation of Japan's famed MITI. State governments use scarce financial resources to create export assistance centers. States station representatives abroad to help develop markets for the states' products, but do not station such representatives around the United States for that purpose.

In Washington state, international trade has been suggested as a theme for the centennial of the state's admission to the Union, even though international trade is and always will be a minor share of Washington's economy. Governmental financial aid is given to foreign companies that locate plants within our borders. Public funds are used to foster sister-state and sister-city relationships, in part to support trade between the sisters. Calls for a state trade policy and "agenda" are heard. To the question of what might comprise such an "agenda," the answer usually given is that a series of conferences will be held to figure that out. Beyond that the talk gets murky, although as intelligence prevails it becomes acknowledged that government should perhaps facilitate rather than promote trade. But differing opinions emerge as to what "facilitate" should include.



Much of the rhetoric and many of the governmental measures advocated regarding international trade reflect serious misunderstandings, not only of what trade is all about but of the simplest economics. Such misunderstandings have in the past too often resulted in bad policy and action, with consequent adverse effects for all. We are now on the verge of a substantial increase in bad policy and action resulting from even greater misperceptions of what is happening around us. Moreover, some of the proposed measures abandon certain basic precepts of government and its relationship to society, precepts that have made this country the most successful in the world in providing for the well-being of its people. In too many instances, recommendations that we adopt practices of other countries reflect inadequate perceptions of what is really happening in those countries.

Hence, the objective here is twofold. First, we will attempt to correct some of the popular misperceptions about international trade and its effects. Second, the role of government in international trade and investment will be addressed, especially the appropriateness and ultimate worthwhileness of governmental efforts to both obstruct and increase trade. Particular attention will be given to the question of whether government, especially state and municipal government, should be involved in international trade in a way in which it is not involved in domestic trade.

The Trade Deficit

The U.S. trade deficit is the focus of much of the attention being given to international trade. While many recognize otherwise, most of the rhetoric is that the trade deficit is bad and must be corrected, even at great cost.

Although alarmists usually point to the merchandise trade deficit, the more comprehensive current account, which includes trade in services as well as goods, is the better measure of how this country is doing commercially with the rest of the world. Both accounts are in deficit, but the current account deficit is substantially less than the merchandise trade deficit.

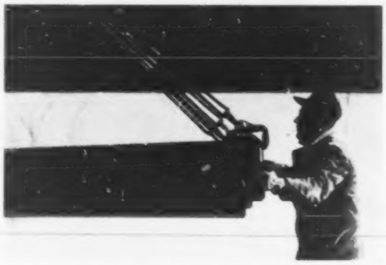
Some seem to think that producing hard goods is more important, more worthwhile, perhaps more "legitimate" than providing services. Using this logic, a hula-hoop would be more worthwhile than scientific research or the services of statesmen who preserve this civilization. Dollars earned from selling services have just as much purchasing power as those earned from selling goods. Aside from security considerations, as long as global resource allocations and comparative advantage so dictate, we need not be concerned about becoming increasingly a producer of services.

More importantly, a better understanding of what the deficit really means is necessary before we get too alarmed about it and certainly before some "corrective" measures now advocated are adopted. In a very real sense, it means that the rest of the world is currently contributing more to our standard of living than we are to theirs. By definition, the deficit means that we are receiving more value in goods and services than we are having to give back in return. One benefit of the deficit is that it enables us to enjoy a high level of consumption while we go through industrial restructuring to provide for even higher future standards of living.

The United States can maintain a current account deficit for as long as the rest of the world is willing to finance it. Capital flows continue despite the United States becoming a net debtor nation during the past year; this shows the underlying strength of the U.S. economy and its enormous potential to generate foreign exchange. The United States may someday—although not necessarily—have to pay for its present consumption excess by again exporting more than it imports. If that does not result from continued productivity growth in goods and services in international trade, then the next best alternative is equilibrium achieved through exchange rate adjustment resulting from free market forces. Either process is far preferable to lowering our standard of living by curtailing trade.

The trade deficit is often blamed for unemployment. But the relationship between a trade deficit and jobs is more complex and tenuous than appears on the surface. The Morgan Guaranty Trust Company, in an excellent analysis of U.S. competitiveness and trade in the September 1984 issue of its highly respected *World Financial Markets*, contends that it is misleading to claim that wiping out the trade deficit would restore jobs lost in the export- and import-competing sectors of the economy. After reviewing how changes in domestic demand and the trade deficit are shifting the job structure in the United States, the article concludes: ". . .actions on the trade front are unlikely to solve the U.S. unemployment problem." President Reagan, in his August 31, 1985 radio address to the nation, said, "In 1980, we had a trade surplus and about 99 million Americans had jobs. Today we have a trade deficit and almost 107 million Americans are working."

In any case, the trade deficit is not a cause of unemployment. It is a reflection of changing comparative advantages and levels of demand between the United States and other countries, including demand stemming from U.S. fiscal policies. Without the current account deficit, the dollar would have been still stronger in recent years, making it even more difficult for U.S. producers to export.



An obsession with exporting prevails. The Export-Import Bank does not finance imports, only exports. Rarely is there a conference or seminar on how to import, yet there are an endless number on how to export. Actions of governments are invariably designed to restrict imports and increase exports. Such is the euphoria over exporting that the public is left with the impression that there is some special benefit to exporting, something almost magical about it.

It is well to remember that the act of exporting per se results in a *diminution* of a nation's real wealth; the nation is giving up the fruits of its labor, the depletion of its resources for others to consume. The automobile, bushel of wheat, or computer exported means that that item and the resources consumed in producing it are no longer available to Americans. When this is recognized, the absurdity that there is something patriotic about exporting, unpatriotic about importing, becomes clear. A nation exports but for one reason—to earn the foreign exchange with which to import.

The United States can maintain a current account deficit for as long as the rest of the world is willing to finance it.

Other misperceptions of international trade and its related phenomena can be equally puzzling and sometimes amusing. A Seattle banker was quoted as saying that a strong dollar is bad for the United States. This is tantamount to wishing that your dollar bought only a five-pound sack of potatoes instead of a ten-pound bag at the grocery store. Remembering that the purpose of exporting is to earn the wherewithal with which to import, a strong dollar means that for every unit exported, we are able to get more back in imports, an *improvement* in the terms of trade in our favor, and an increase in our standard of living. A strong dollar may be tough on exporters dependent upon a weaker dollar, but for the nation as a whole, it is for the good.

Domestic vs. International Trade

All the enthusiasm for international trade can lead to an exaggerated impression of its role. The brochure of a prominent Seattle-based trade organization formerly contained the statement, "International trade is Washington's number one employer." A moment's reflection reveals how little meaning this contention has. If international trade is an employer, then its counterpart that makes up the balance of our economy, domestic trade, must also be looked upon as an employer. And domestic trade is a vastly larger employer than international trade. The same brochure also contained the frequently heard claim that international trade accounts for one of every five jobs in Washington state, acknowledging that domestic trade is a larger employer by fourfold. International trade is important, but it does more harm than good to distort its role.

In a similar vein, Executive Order 84-04 (Olympia, March 7, 1984) contains the statement, "International trade is the most important feature of Washington state's growing economy." Not only does international trade account for only one-fifth of the jobs in the state, but it only provides about 10 to 15 percent of gross output, again making domestic commerce and industry far more important "features" of our economy. Even if just future *growth* is considered, the statement means that the international sector would have to grow seven to ten times as fast for it to contribute as much as the domestic sector. International trade *has* grown faster than domestic economies all around the world since World War II, but it's been by an increment ranging between 10 and 35 percent, not by 700 to 1,000 percent!

Even in Japan, which has a reputation as a great trading nation, more than 85 percent of what it produces is consumed domestically. The predominant part of Japan's future growth will also come from Japanese producing for Japanese. Our own growth, including Washington's, will similarly come principally from Americans producing for Americans.

Another overstatement about international trade was made during a 1983 Seattle television station's series dramatizing Japan's achievements. Several times during a live broadcast from Nagoya, the statement "The future of Washington will be made in Japan" was made with great flair. Since only about 3 percent of what we consume in this state is made in Japan—perhaps 4 percent by the year 2000—the absurdity of the remark is apparent. Sensational journalism perhaps, but hardly contributing to an understanding of the role of Japan in the lives of Washingtonians. Washington, present or future, will never be "made in Japan."

The U.S. Economy

In addition to misperceptions about international trade, much current rhetoric often provides an overly pessimistic view of how the U.S. economy is faring. The most common example is the contention that other countries have become more productive than the United States. Such claims usually confuse productivity with productivity growth. The U.S. economy remains far and away the most productive in the world, in both absolute and per capita terms.* Other countries, including many developing countries, have higher productivity growth rates than the United States has, and that is good. They have a need to grow faster because their standards of living remain so much lower than ours. The greater the gap between the big players in the world economy and the poor ones, the more ongoing and severe will be the problems experienced in the Middle East, Southeast Asia, Central America, and Africa, and the more vulnerable such regions will be to economic systems and social orders that are the very antithesis of what we value.

"The U.S. share of manufactured exports has declined from 25 to 18 percent over the past twenty years" represents the citing of another trend in an alarmist context. The U.S. share of gross world product has also declined by a comparable margin. Given the disproportionate share of trade and global output the United States formerly had, these trends are not only natural but desirable.

*** Exception to the latter are a few countries where the product is in the form of a certain "black gold" beneath the sands or some other natural resource, not in the productivity of the system.**

GREEN PEAS
LONDON

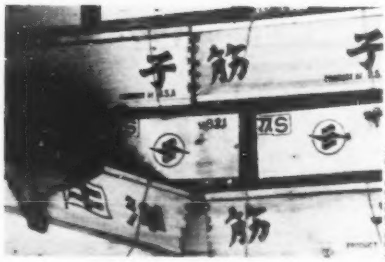
The important thing is that, in absolute terms, our output and standard of living rise. That they have been doing, not withstanding the period in the early 1980s when real GNP in the United States declined slightly as it did worldwide.

There are those who say that Americans don't know how to export. It should be realized that the United States is by far the greatest exporting country in the world. No one else comes close. Even on a proportionate basis we fare well, the percentage of our GNP exported being in the same ballpark as Japan's. Neither Japan nor the United States exports as large a percentage of its output as most European countries; however, that is more a result of the considerable integration of the European market than of better expertise at exporting.

Implications of Governmental Intervention

One might ask what does it matter if we don't understand international trade as well as we should, if we misperceive its role, if we misinterpret the implications of a trade deficit, and if we are overly gloomy about the performance of our economy. There are two important reasons for having a better understanding.

First, from the standpoint of an individual person or business enterprise, it is important that we not be led to unrealistic expectations. Much of the rhetoric about international trade leads one to conclude that there is a great bonanza out there. The world is a big marketplace, but it's nothing new, and like our domestic market, it's tough. Industry and commerce, worldwide and in Washington, have long been fighting to serve that market. Profits will be made, but there is no basis to conclude that opportunities and benefits will be much greater than in our own domestic market.


NICK GUNDERSON

Second, a more serious consequence of the ignorance surrounding international trade is the danger of ill-founded public and governmental actions that can be more damaging to our economic and political systems than the supposed problems they are attempting to cure. Is the present imbalance in the current account or in merchandise trade such a problem that government should depart from its traditional, prescribed role in a free enterprise economy to correct the imbalance? Are the benefits from international trade, particularly from exporting, such that government should intervene in the economy to increase exports? Is intervention in international trade by foreign governments cause for the United States to do so? Are the changing patterns of trade and reordering of industries around the world having such dire effects on the U.S. economy as to warrant government becoming more active in the economy to slow down these changes or to accelerate them? These questions and issues demand attention.

The most popular argument for government—federal, state, and local—intervention in international trade is that it creates jobs. Aside from whether it is the responsibility of government to create jobs, international trade does so no more than domestic trade. If a billion dollars worth of exports creates 30,000 jobs, so does a billion dollars worth of producing for and selling to Americans. Job creation by itself is not an adequate reason for government to assist exporters or importers.

Another reason often presented for governmental intervention in international trade is that 15 percent of our country's largest firms account for 80 percent of our exports. Government, therefore, should do something to help the little guy export. Two points need to be made here. First, this situation is not at all peculiar to the United States. Large firms account for the bulk of exports in other countries as well, in some cases more so.

AUSTRALIAN PIONEER
NICK GUNDERSON

Second, a comparable number of large businesses also account for a disproportionate share of our gross national product. That's nothing more than a tautology—they wouldn't be large if they didn't. If small firms' disproportionate share of exports is reason for special governmental assistance to help them export, then their disproportionately small share of total GNP should justify special governmental assistance to help them produce for domestic consumption. The appropriateness of governmental assistance to a business firm just because it is small is debatable, but it should not be based on whether or not the firm exports.

According to the "trickle-down" theory or multiplier effect, everybody benefits from exports. But that, too, is equally true for domestic commerce. Once more, there is nothing special about exporting.

Even in Japan, which has a reputation as a great trading nation, more than 85 percent of what it produces is consumed domestically.

Another argument for governmental assistance to exporters is that exporting is "difficult." Should government provide special assistance to an industry because business is difficult? It is difficult to sell to Americans, too, in some cases more difficult than selling to foreigners. Little imagination is needed to envision the Pandora's box that would be opened if "difficulty in doing business" became a rationale for receiving governmental aid.

Someone recently argued that Washington state should more actively promote international trade because the marginal return or benefit is greater than in domestic trade. One cannot help but wonder whether that has been verified, particularly given the competitiveness of the international marketplace. But regardless of which industry or sector of the economy now has the greatest marginal return, should the state take it upon itself to attempt to identify on an ongoing basis that industry or sector and say, "This is where we should now allocate some of our scarce public funds and support this particular industry." This sector this year, that industry next year? Particularly, should government do this when private entrepreneurs, in their proper role in a free enterprise economy and with all their profit motivation and acumen, are engaging in that activity all the time? Private industry may not do it perfectly, but they'll surely do it better than government. And, importantly, when mistakes are made, the entrepreneur making them will pay the cost rather than the public at large. That has not only a benefit of equity, but of forcing greater prudence in investing capital, in allocating scarce productive resources.

Washington state has established an Export Assistance Center that is intended to provide information and assistance in finding buyers overseas and to guarantee the financing of exports by commercial banks. In providing this assistance, the state is duplicating similar programs provided by the federal government. Moreover, small enterprises with good futures are prime targets for banks, with banks competing aggressively to finance the small firm's exports. If the banks are unwilling to finance someone's exports, it is a pretty good sign that there is a high element of risk in selling to those foreign buyers, that the transactions are probably unworthy of financing in the first place. There is no justification for a state agency to relieve the banks of that risk just in the name of exporting. If nothing else, it presumes that the state is in a better position to assess the credit of the overseas buyers than are the banks, with their extensive staffs, experience, and knowledge. The state is simply not in that position. Nor should it be.

There are those who believe that the state should at least provide a data bank of information on international trade opportunities. Here the question of duplication of effort arises. The Seattle regional office of the U.S. Department of Commerce's International Trade Administration maintains extensive information on trade opportunities for Washington exporters and importers. It also has access to the information and services of the Department of Commerce in Washington, D.C. and its staffs in American embassies and consulates throughout the world. Adding that to the services already provided by the private sector makes the worthwhileness of the state spending its funds to provide information services questionable.

An important consideration in all this, one that can not be overemphasized, is that there are substantial elements in the private sector with extensive capabilities to help American companies, small and large, to export and import. Countless export-import houses, export management firms, general trading companies, commercial banks, and some of the larger accounting firms provide extensive services to help people export. The small American company does not have to go far to find other business people eager and able to help it export. There is literally no need for state government to provide that kind of help. And in a free enterprise system, that's the way it should be.

Attracting New Industries

In addition to growing attempts to involve itself in international trade, governmental efforts to attract investment, particularly foreign investment, are accelerating across the country. State governments are falling all over themselves to lure industry with free infrastructure facilities, tax holidays and deferrals, and below-market-rate loans, and sending grand missions overseas to attract investors. Too often overlooked is the fact that there are costs associated with new industry—more urban sprawl, more freeways, increased sewage and waste disposal burden, more pollution—all of which tend to eat up the new tax revenues generated. Nor does additional industry eliminate unemployment, as new industries experience their own cyclical swings and eventual secular declines. To the extent that industry is attracted by governmental incentives and salesmanship rather than economic fundamentals, those declines can come that much sooner.

But of far greater concern is the departure from those basic precepts upon which is founded a free enterprise economic system with a limited, prescribed role of government. Using public funds to subsidize a business just because it exports or is making a new investment is a departure from these precepts. Having government make the selection of which businesses shall be subsidized and which shall not raises the question of equity. Inevitably, the selection process will begin to be influenced by political clout, rather than just who can meet consumers' needs most efficiently, with resultant misallocation of resources and lower incomes for all.

There are those who will argue that times have changed, that we should follow the example of others. The best response to that is to contrast the economic performance of the United States in recent years with that of the other major industrial countries, all of which have considerably greater governmental involvement in their economies. That the economy with the least governmental involvement has not only been the best performing, but is perceived by the rest of the world as the most attractive in which to invest, is surely no coincidence. There are things we can learn from others, but an increased role of government in the economy is not one of them.

さけ—CHUM-DOG
ます—PINK-HUMPY
べに—RED-SOCKEYE
ぎん—SILVER-COHO
すけ—KING-SPRING

NICK GUNDERSON

There is a lot to be said for New Hampshire Governor John H. Sununu's message as reported in the Commentary section of the September 1985 issue of *Seattle Business*: "We in New Hampshire have an enviable environment, superior schools, a skilled work force, and a good tax structure. We would like to have you move here and think you will benefit by the move—but you'll have to select us on our merits. No deals, no breaks, no special privileges; you'll get the same good treatment we give every other business in this state. Period."

Donald Marsh is international vice president of Burlington Northern Inc. and president of Burlington Northern International Services Inc. Prior to joining Burlington Northern in 1984, he spent twenty-five years in international banking with Morgan Guaranty Trust Company and Rainier National Bank.

Economic Developments in the Pacific Northwest

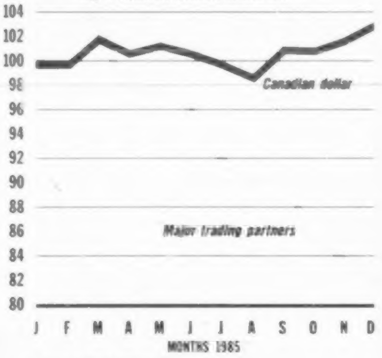
Washington's economy is sometimes described as interest-sensitive and export-oriented. Declining interest rates and a weakening exchange rate for the dollar are therefore viewed as developments favorable for Washington's economy.

The cost of a trade-weighted dollar for a group of ten countries constituting the United States' principal trading partners, plus Switzerland, has declined by an average of 18 percent over the past year (see Figure 1). This decline in the value of the dollar represents a corresponding reduction in the cost (from the foreign purchasers' perspective) of buying American.

The Washington industries most likely to benefit from the fall of the dollar are those currently most dependent upon foreign markets. Solid measures of different industries' shipments to foreign countries are not available, but we can get a rough indication of the impact by looking at the state's leading export industries (see Table 1).

Figure 1: Indexes of Exchange Rates

changes in the value of the U.S. dollar against key currencies, January 1985=100



Source: Federal Reserve Board

Table 1: Washington's Leading Export Industries, 1982

SECTOR	% OF SHIPMENTS DIRECTLY EXPORTED[1]	APPROXIMATE EXPORT VALUE (IN MILLIONS $)
Wheat (SIC 0111)	80	430
Wood products (SIC 24)	21	890
Pulp and paper (SIC 26)	18	490
Aerospace (SIC 371, 376)	38	3,400
Machinery and instruments (SIC 35, 36, 38)	26	580

[1] For wheat and aerospace, exports as a percent of the value of production; for other sectors, exports as a percent of the value of industry shipments.

Source: Graduate School of Business Administration, University of Washington input-output study, preliminary estimates.

Just how much each of these and other Washington export industries will benefit from the weakening dollar is uncertain. For some producers the price advantage is likely to be significant, providing an incentive to expand production and employment. Actual commodity flows react to exchange rates with variable time lags, therefore the future prospects for Washington export-oriented industries look increasingly favorable.

Guarded optimism is justified for two reasons, however. First, the U.S. dollar has not weakened against all key currencies; it has actually strengthened relative to the Canadian dollar (see Figure 1). Since inflation rates (as measured by the Consumer Price Index) in both countries have been quite similar during the past year, Canadian products look like even better buys in markets where both countries are in head-to-head competition. Not only will the U.S. dollar spent by visitors to EXPO 86 go further, but the cheap Canadian dollar has contributed to Canadian suppliers capturing an increasing proportion of the U.S. lumber market. Canadian producers are also vigorously competitive in the world markets for wheat, aluminum, and forest products.

Second, a weaker dollar also implies higher costs for some of Washington's import-dependent industries. Foreign inputs play a less conspicuous role in the procurement patterns of Washington industries than do foreign markets as a destination for our products. Yet, many producers are to some degree import-dependent. Examples include aluminum mills (for alumina), cement plants (for limestone and clinker), electrical equipment manufacturers (for components), printing and publishing (for newsprint), and even aerospace (for aircraft engines and subassemblies). The threat of imminent cost escalation is quite limited, however, since the dollar exchange rates with respect to some of the supplying nations (such as Canada, Mexico, and Australia) have not yet weakened.

Our overall assessment is that lower exchange rates, which favor our export-oriented industries, combined with lower interest rates, which are advantageous to our interest-sensitive industries in domestic markets, provide the basis for a more encouraging outlook for Washington industry. Although not every sector will benefit, some of the persistent marketing problems that plagued the regional economy so far this decade are dissolving. The pendulum appears to be swinging in a direction more advantageous to regional economic expansion.

GRAMM-RUDMAN IMPACTS

In the closing weeks of 1985, Congress passed the Gramm-Rudman-Hollings (GRH) deficit-reduction legislation. It calls for a cut of $11.7 billion in the FY86 budget, followed by a deficit not to exceed $144 billion in FY87. Thereafter, the deficit target declines by $36 billion per year until it reaches zero in FY91. While ongoing litigation leaves substantial uncertainty about the impacts of GRH, governmental budget officials are planning for its implementation.

To ascertain the potential impacts on the Pacific Northwest, we have assembled materials on GRH and surveyed a number of regional budget officials. Estimates of the potential cutbacks have been prepared for all states by a Washington, D.C. research firm (see Table 2). While these estimates have the advantage of comparable assumptions for all states, calculations by regional budget officials show somewhat different results. Washington's Office of Financial Management estimates the impact at $25–30 million in FY86 and $75–100 million in FY87. Idaho's Legislative Budget Office estimates the impact to be $9.8 million in FY86 and $42 million in FY87. For estimates of the impact on Oregon, see Table 2.

At the local level, the perceptions of potential impacts are very diverse. Seattle currently receives about 25 percent of its general fund budget from federal programs. Local agencies, especially METRO (an agency which provides countywide bus service and water quality control in the greater Seattle area), may also face budget cutbacks.

In contrast, the city and county of Spokane rely less on federal programs, and have already drawn up budgets that anticipate the elimination of revenue sharing. The city's community development and transportation programs are slated for budget reductions, and no additional tax revenues are contemplated. The county is planning for the phaseout of revenue sharing and sees no other potential impacts.

In Portland, cuts of $850,000 are expected in FY86 in revenue sharing and community block grants. A mix of program reductions and new revenue sources may result, but the city's plans have not been finalized. No estimates have yet been made of impacts on transportation programs. With federal, state, and local matching dollars involved, the calculations are very complex.

Additional impacts will result from reduced federal government activity in the region. Many agencies have extensive lands and facilities in the Northwest; they may be facing reduced budgets. Research programs at universities may be cut back. Water quality programs may be trimmed. Reduction of the extensive federal presence in the region will inevitably have negative impacts on the struggling regional economy.

The attitudes of budget officials in the region toward the cutbacks also provide some interesting contrasts. One budget officer called the GRH approach "deficit sharing." Another local governmental official indicated that if everything were cut back proportionately, "with no sacred cows," then we all could live with it; however, the current approach is focusing on just one sector—state and local governmental programs. Another said, "If I were a federal budget planner, I would be doing the same thing—trying to concentrate the cuts in agencies with independent sources of revenue, i.e., state and local government. That way, if taxes are raised to keep programs going, it won't be the federal government that raised the taxes."

DEFEDERALIZATION OF BPA

The President's proposal to sell the Bonneville Power Administration (BPA) to a public or private entity rekindles a debate that has been going on since the report of the Grace Commission in 1980. This commission made a number of recommendations concerning the five Power Marketing Administrations (PMAs), of which the Bonneville Power Administration is the largest. Among these recommendations were three that have turned up in later budget proposals from the Reagan Administration: (1) use of scheduled, straight-line amortization of the entire federal power investment in lieu of rules which allow paying back the highest cost notes first; (2) use of market interest rates for all current and past federal investments except for those excluded by statute; and (3) sale of the BPA and the four other PMAs for a price estimated to bring in $25 billion. (Included in these sales would be all of the power generation and transmission facilities owned by the PMAs, the Bureau of Reclamation, and the Corps of Engineers. However, the dams themselves, built for flood control, irrigation, and other purposes, would remain in federal ownership.)

As part of the process of setting budgets for FY86, the Office of Management and Budget (OMB) picked up part of the Grace Commission recommendations. OMB proposed that the PMAs recalculate their federal Treasury loan repayments for all unamortized debt based on (1) current Treasury interest rates, (2) a fixed straight-line repayment schedule over the life of each power-related asset or fifty years, whichever is less, and (3) amortization of irrigation loans on a fixed straight-line repayment schedule.

Assessments of the impacts of the 1985 OMB proposal were prepared by OMB, the PMAs, and by Senator Dan Evans. OMB's calculations show increased revenues to the Treasury of $1.1 billion in FY86 and $0.5 billion by FY90 if the proposal were implemented in FY86. The PMAs' analysis considered price elasticity effects resulting from rate hikes, and projected revenue increases of $0.9 billion in FY86 and $0.3 billion by FY90. Senator Evans's assessment of the OMB proposal concluded that 68,000 jobs would be lost in industries such as aluminum, pulp and paper, industrial chemicals, and food processing, and in the service sectors dependent on the incomes produced in basic industries. Thus, the net gain to the Treasury, after increased tax expenditures and reduced tax receipts are subtracted from increased payments by BPA to the Treasury, would be only $8 million by FY90 according to Senator Evans.

Table 2: State Level Impacts of Gramm-Rudman

estimates of potential cutbacks (in millions $)

	FY 86	FY 87
WA	17.3	110.3
OR	15.4	97.6
ID	5.1	31.0
US	946.1	6,118.1

1. All fifty states plus District of Columbia, Puerto Rico, and Territories.

Source: Federal Funds Information for States, Washington, D.C.

The President's 1987 budget contains another variation on the theme first articulated by the Grace Commission. The 1985 OMB proposal to raise the interest rates is dropped, but the idea of a fixed repayment schedule for all outstanding debt is picked up, at a price tag of $139 million per year to BPA. In addition, the idea of selling BPA and the other PMAs is adopted, with a price of $8.8 billion proposed for BPA. Payment is anticipated over a four-year period, starting in FY88. A process allowing regional and other entities to bid on BPA's assets is yet to be designed.

A task force has been formed by the Northwest Public Power Council to study the President's proposal on BPA, and the region's governors have been discussing the idea of a regional compact to take over BPA. The fate of the repayment schedule and defederalization proposals of the President are of great significance to the region due to their rate implications. *Pacific Northwest Executive* expects to follow these matters closely in future issues.

The CPI As an Escalator

The Consumer Price Index (CPI) is a measure of the change in prices paid over time for a fixed market basket of goods and services purchased by a well-defined set of consumers. It is a commonly used inflation indicator which affects virtually every citizen. Collective bargaining agreements which incorporate cost-of-living adjustment clauses are usually linked to the CPI, so it is an important consideration influencing the paychecks of millions of workers. Indexation by the CPI is also embodied in some lease agreements, purchase options, building contracts, and income maintenance agreements. Food stamp allowances, Social Security payments, retirement benefits of federal civil service and military personnel, and federal income tax rates are indexed using the CPI. It is an important price index, vaguely familiar, but not well understood and often improperly used.

This discussion will not dwell on the arcane technicalities of the construction of the CPI, but is intended to provide an overview of some of the things users should know as they go about employing it for their various purposes. It concludes with some advice on how to avoid misusing the CPI.

A Family of Price Indexes

The CPI is not a single index. It is a family of price indexes designed to measure changes in prices over time for a fixed market basket of goods and services. The indexes are constructed by the U.S. Department of Labor, Bureau of Labor Statistics (BLS). They are reported monthly (in the fourth week of each month for the prior month) by the BLS in various media with documentation in a monthly bulletin called the *CPI Detailed Report*.

At the head of this family of indexes, two are most prominent: the CPI-U and the CPI-W. The CPI-U is an index that measures the percentage change in prices faced by urban consumers, and is therefore representative of the average changes in prices faced by about 80 percent of U.S. families. The other major index, CPI-W, measures the change in prices encountered by urban wage earners and clerical workers, a subset of all urban families. The CPI-W is representative of a smaller portion (mainly blue-collar workers) of the U.S. population. It was initiated in 1919 and designed to measure changing prices encountered by factory workers and clerks. As sources of income and occupational distributions changed, the BLS recognized the need for a more comprehensive measure of changing consumer prices. The CPI-U was therefore introduced in 1978.

Reporting Frequency and Area Indexes

Both the CPI-U and the CPI-W for the United States are published on a monthly basis and are reported in both seasonally adjusted and unadjusted form. These national indexes are actually the weighted average of price changes reported in eighty-five urban areas and are officially designated the U.S. city average. Indexes for each of the twenty-eight largest urban areas are also published, but not seasonally adjusted. For five city areas (Chicago–Northwestern Indiana, Detroit, Los Angeles–Long Beach–Anaheim, New York–Northeastern New Jersey, and Philadelphia–New Jersey), indexes are constructed on a monthly basis. Indexes for other cities are reported bimonthly. Additional indexes are published each month for broad regions and for population size classes.

See Table 1 for recent CPI-U data for the U.S. city average and the Portland and Seattle/Everett metropolitan areas. Figure 1 depicts the percent change in CPI-U for the U.S. city average, Portland, and Seattle/Everett. The decline in rates of inflation in recent years is clearly apparent. In addition, one can see that changes in the CPI-U for Seattle/Everett and for Portland broadly follow the national trends in inflation. There are periods, however, in which the over-the-year regional inflation rates persistently deviate from the national average; these regional indexes are more volatile as well.

The BLS also provides a host of special indexes for the United States and for cities—for example, all the CPI items except shelter, or all the CPI items except medical care. The latter may be of great interest to firms that provide medical care for employees but wish an index reflective of other prices paid by consumers.

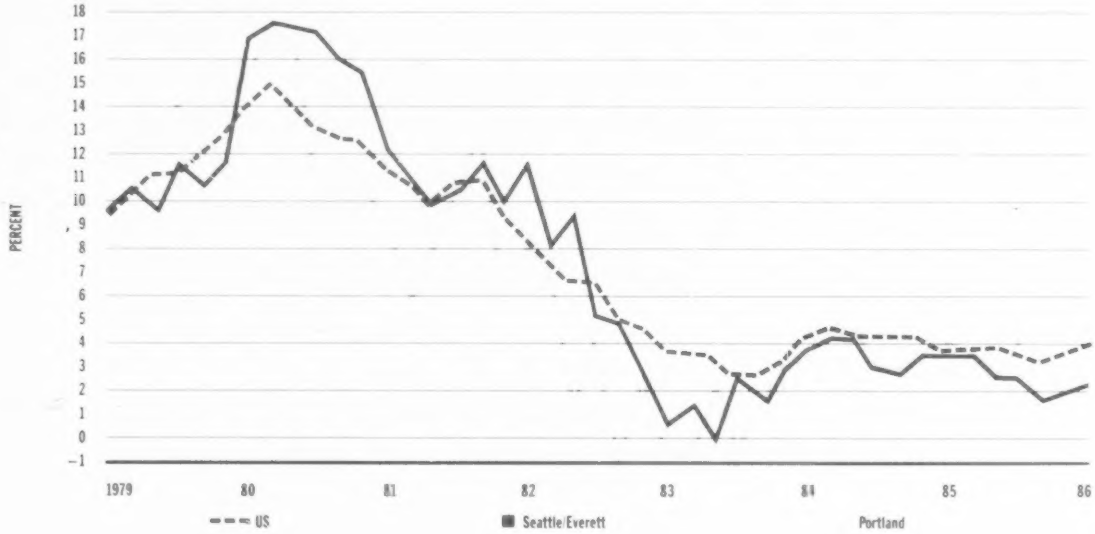
Given the plethora of official indexes, which should be consulted? That depends

Table 1: CPI For All Urban Consumers (CPI-U)
U.S. City Average, Seattle/Everett, and Portland (1967 = 100)

YEAR	INTERVAL	US CITY AVERAGE	SEATTLE/EVERETT	PORTLAND
1980	Average	246.8	252.1	255.4
1981	Average	272.4	279.7	278.2
1982	Average	289.1	297.8	287.0
1983	Average	298.4	302.8	290.1
1984	Average	311.1	313.9	301.0
1985	Average	322.2	321.6	311.9
1985 Monthly	January	316.1	319.5	306.8
	February	317.4	—	—
	March	318.8	321.4	309.0
	April	320.1	—	—
	May	321.3	321.0	310.4
	June	322.3	—	—
	July	322.8	322.0	312.9
	August	323.5	—	—
	September	324.5	321.8	314.9
	October	325.5	—	—
	November	326.7	324.0	317.1
	December	327.4	—	—
1986 Monthly	January	328.4	327.0	321.3

Source: U.S. Department of Labor, Bureau of Labor Statistics

Figure 1: Percent Change in CPI-U
current month vs. twelve-month previous



upon the purposes and specifics of each situation. The BLS warns users that local area indexes are by-products of the national CPI program and are based on smaller sampling sizes with measurement error much greater than the national CPI. Due to measurement error and other reasons, the local area indexes show greater volatility than the national indexes. The BLS strongly urges users to consider adopting the national CPI for use in escalator clauses. Another practical reason is that some city indexes currently published on a bimonthly basis will soon be reported less frequently. For example, the Seattle/Everett and Portland CPIs, now published bimonthly, will be published only semiannually beginning in 1987.

There are so many different indexes that conflicting interpretations of legal contracts can arise if the intended index is not precisely defined. Escalator clauses linked to the CPI should carefully specify the intended index. Vaguely defined escalator clauses have been deemed unenforceable by the courts.

Weights, Prices, and the Base Period

The basket of goods used in the CPI is based on detailed surveys of family spending patterns for the relevant population groups (all urban consumers, and wage and clerical workers) in different areas. The expenditure weights are based on household surveys conducted in 1972–73. The basket of goods used in weighting price changes is varied infrequently. These expenditure patterns are not necessarily reflective of today's spending patterns, but in order to measure price changes, as distinct from quantity changes, it is necessary to hold the weights fixed. Thus, a strict interpretation of the CPI is that it measures the prices which would have to be paid today to purchase the same basket of goods purchased in some earlier period by a specified class of consumers, relative to some base year.

A total of 382 items are currently included in the market basket. Literally more than 100,000 price observations for these various items are collected each month. These prices, gathered from eighty-five areas of the nation, are obtained from outlets carefully selected to be representative of the markets in which urban consumers actually make their purchases. The CPIs for a given month are reported in the fourth week of the next month. It is a marvel of technology and organization that such volumes of data can be assembled, processed, and published within weeks.

The base period used in constructing the CPI is not necessarily, and never has been, the same period as that to which the weights pertain. Currently, the base period of the national all items CPI index is 1967 equals 100. The base period is immaterial in interpreting *changes* in the CPI, but obviously can affect its level at any time. The technical methods of construction are such that it is really irrelevant what base period is chosen, and the base period may be shifted without distorting the characterization of the price changes taking place over time.

From time to time, revisions are made in the weights used in constructing the CPI, the base period, or methods of obtaining prices or quotations. Major revisions in the CPI have taken place infrequently: in 1940, 1953, 1964, and 1978. Another major revision will take place in 1987. The 1987 revision will update the market basket to reflect spending patterns of 1982–84, but the BLS has not indicated an intention to change the base period. Other important revisions occurred when the estimation of the housing cost component was shifted to a rental equivalent basis for homeowners in the CPI-U (effective January 1983) and in the CPI-W (effective January 1985). This change removed the investment aspects of home ownership from the indexes.

In view of the periodic changes in the weights entering into the various indexes, the items being priced, the outlets from which price quotations are collected, and the populations represented, do the indexes over their total history (since 1913) represent a true picture of the changing prices faced by consumers? The BLS maintains that the indexes represent a *continuous* history of price changes. But the methods by which the indexes based on different market baskets are linked, the often subtle or illusive changes in quality for which adjustments are only sometimes made, and changes in methods of pricing make arguable the notion that *comparability* in the CPI is maintained over time.

Avoiding Misuse of the CPI

A number of errors are commonly made in using the CPI. A few of the pitfalls to avoid include the following:

► **Improper Name.** A common error is the use of an improper name or designation when referring to the CPI. References to a "cost-of-living index" in a contract is just cause for confusion. The CPI does not measure changes in the cost of living; living costs vary with spending patterns, changes in family size and composition, income, tastes, taxes, and other reasons not directly or solely related to changing prices. The CPI is not a true cost-of-living index, although it is sometimes treated as if it were. Given that there are two broad national indexes, the CPI-U and the CPI-W, and that these are published for cities and regions as well, parties to a contract should specify exactly which index is intended for escalation purposes. Exact index names should be used if parties intend to have an enforceable escalation clause.

► **Nonexistent or Improper Area Designation.** The courts have ruled that a contract to adjust a lease in accordance with changes in the "cost-of-living figures for the City of Spokane" is unenforceable. There is no official cost-of-living index, and the BLS does not publish a CPI for Spokane. Parties negotiating contracts should use the official area designations for regional CPIs. For contracts involving parties in the Pacific Northwest, the choices are the U.S. city average, West region, Portland, Anchorage, and Seattle/Everett indexes. Starting in January 1987, the Seattle/Everett area CPI will encompass the entire region from Everett down through Tacoma, and the Portland area CPI will include Vancouver, Washington.

► **Improper Date or Interval Designation.** For Seattle/Everett, as well as for Portland, indexes are currently reported for alternate months beginning with January. Escalation commencing in or effective in February, for example, can not be put into effect since there is no February index for those cities. Both the national and area indexes are published for a month as a whole, not for a particular day such as the first or the thirty-first.

Beginning in January 1987, the Seattle/Everett and Portland area indexes will become semiannual. Parties negotiating contracts should take this change into account. Many existing escalator clauses in contracts will become difficult to implement, since area indexes may not be available at time intervals previously agreed upon.

► **Absolute Price Levels and Point Changes.** The CPI can not be used to make inferences about the absolute *level* of prices between areas. The 1984 (annual average) CPI-U for Anchorage is 275.6, while the comparable index for Seattle/Everett is 302.8. No one should conclude, however, that prices are lower in Anchorage than in Seattle.

Point changes in an index do not measure percentages. For example, the CPI-U all items national index in 1984 was 311.1, compared to 298.4 the previous year. This over-the-year increase of 12.7 points represents an increase of only 4.3 percent. Do not confuse point changes in an index with percentage changes.

► **A Proxy for Nonconsumer Goods.** Price changes taking place in the CPI or its subcomponents can not be properly used to assess the degree of price change for other goods. Consumer price changes should not be taken as an approximation of changing land prices, commercial office rents, or capital goods prices. Other price indexes may be more suitable for indexation of industrial goods. The Producer Price Index (formerly called the Wholesale Price Index) measures price changes of commodities in primary markets. Agricultural input and output price indexes are published by the U.S. Department of Agriculture. For contracts where indexation is involved, the parties must agree upon an appropriate measure of price change. There is often no easy answer to the question "which index?" since it depends upon the objectives sought and the identification of the escalator which best meets one's goals.

► **Arbitration of Disputes.** Price indexes are not static. If the BLS makes procedural changes to the way in which it constructs the CPI, is it still the same index to which contract participants had initially agreed? Parties to contracts are advised to make provision for arbitration of disputes. A conflict resolution process can avoid possible court action. This is especially important in view of the major revisions forthcoming in 1987.

The not infrequent imposition of rent controls or official price ceilings upon goods may render the CPI a measure of government-sanctioned price behavior, not market prices. It may be desirable to anticipate such circumstances in a termination clause. Defining the avenue by which a party may legally terminate an agreement when court-enforceable price controls come into existence may sometimes be advisable.

The CPI and the IPD

In addition to the CPI, another widely used measure of consumer price changes in the economy is the Implicit Price Deflator for consumption in the GNP accounts of the United States (IPD-C). The IPD-C is often used by economists for purposes of deflating time series of aggregate nominal income to express income in terms of "real" dollars. The IPD-C is more comprehensive in scope than the CPI. It is also constructed differently since the weights are not fixed, as in the CPI; instead, the weights are allowed to vary as consumer purchases change in response to price changes. The IPD-C does not provide any regionalization of price changes, and initial estimates are subject to further (sometimes large) revisions. However useful the IPD-C may be for general economic analysis, it is not widely used for indexation purposes. ▮▮

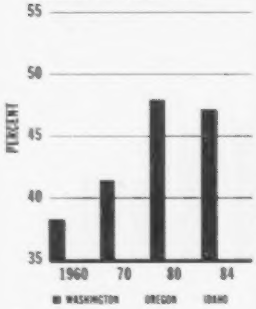
Sources of Price Index Information

Data on the various price indexes may be obtained from a variety of sources. Monthly reports on the CPI may be obtained from the U.S. Department of Labor's CPI 24-hour information hot line in Seattle (206) 442-0645, Portland (503) 221-4132, and Anchorage (907) 274-8731. The regional office of the U.S. Department of Labor, Bureau of Labor Statistics in San Francisco can provide additional assistance and information. More comprehensive BLS reports of price changes are published each month in the *CPI Detailed Report*, the *Producers Price Index*, and the *Monthly Labor Review*. Historical data for the CPI and other price indexes are summarized in a number of publications, including the *Statistical Abstract of the United States*, the *Economic Report of the President*, and the *Survey of Current Business*.

More on the history and technical details of the CPI is available in various publications of the U.S. Department of Labor, Bureau of Labor Statistics. See especially *The Consumer Price Index: Concepts and Content Over the Years*, Report No. 517 (May 1978); *BLS Handbook of Methods, Vol. II: The Consumer Price Index*, Bulletin 2134-2 (April 1984); and J. Marcoot, "Revision of Consumer Price Index Is Now Underway," *Monthly Labor Review* (April 1985), pp. 27–38.

Pacific Northwest Employment, Hours, and Earnings Indicators

LABOR FORCE AS A PERCENT OF POPULATION[1]



LABOR FORCE[2] *in thousands* / **EMPLOYMENT**[2] *in thousands* / **UNEMPLOYMENT**[2] *in thousands*

	LABOR FORCE			EMPLOYMENT			UNEMPLOYMENT		
YEAR	WA	OR	ID	WA	OR	ID	WA	OR	ID
1960	1,090	718	281	1,020	682	264	69	35	17
1965	1,171	814	281	1,107	776	267	63	37	13
1970	1,410	865	298	1,281	803	281	129	62	17
1975	1,561	1,039	346	1,412	929	324	149	110	21
1980	1,984	1,295	430	1,828	1,188	396	156	107	34
1981	1,996	1,337	429	1,806	1,205	397	190	132	33
1982	2,024	1,324	444	1,779	1,171	401	245	153	44
1983	2,069	1,337	458	1,838	1,192	413	231	145	45
1984	2,053	1,335	463	1,859	1,210	430	194	125	33
1985	2,104	1,327	471	1,933	1,210	434	171	117	37

AVERAGE WEEKLY EARNINGS[3] *manufacturing production workers in dollars* / **AVERAGE WEEKLY HOURS WORKED**[3] *manufacturing production workers in hours*

	AVERAGE WEEKLY EARNINGS			AVERAGE WEEKLY HOURS WORKED		
YEAR	WA	OR	ID	WA	OR	ID
1972	179.78	169.42	145.39	39.6	39.4	39.4
1973	199.34	180.78	157.14	39.2	39.3	38.8
1974	203.84	194.39	171.99	38.9	38.8	39.0
1975	225.23	212.35	185.08	38.7	38.4	38.8
1976	248.68	236.12	204.72	39.1	38.9	38.7
1977	267.74	257.46	228.73	39.2	38.6	39.3
1978	297.11	281.97	253.36	39.3	39.0	38.8
1979	323.85	304.92	265.04	38.6	38.5	38.3
1980	361.34	329.57	280.11	38.4	38.1	37.1
1981	405.07	355.13	311.09	38.8	37.5	37.8
1982	432.36	379.76	316.35	38.5	37.9	36.7
1983	444.24	397.17	335.85	38.9	38.9	37.4
1984	450.47	409.25	351.18	38.8	39.2	37.6
1985	NA	405.96	355.70	NA	38.7	37.8

NOMINAL EARNINGS PER HOUR[3] *manufacturing production workers in dollars* / **REAL EARNINGS PER HOUR**[3, 4] *manufacturing production workers in 1984 dollars*

	NOMINAL EARNINGS PER HOUR			REAL EARNINGS PER HOUR		
YEAR	WA	OR	ID	WA	OR	ID
1972	4.54	4.30	3.69	11.15	10.56	9.06
1973	4.83	4.60	4.05	11.16	10.63	9.36
1974	5.24	5.01	4.41	10.91	10.43	9.18
1975	5.82	5.53	4.77	11.11	10.55	9.10
1976	6.36	6.07	5.29	11.47	10.95	9.54
1977	6.83	6.67	5.82	11.58	11.30	9.86
1978	7.56	7.23	6.53	11.91	11.39	10.28
1979	8.39	7.92	6.92	11.85	11.19	9.78
1980	9.41	8.65	7.55	11.72	10.77	9.40
1981	10.44	9.47	8.23	11.79	10.70	9.30
1982	11.23	10.02	8.62	11.97	10.68	9.19
1983	11.42	10.21	8.98	11.81	10.56	9.29
1984	11.61	10.44	9.34	11.61	10.44	9.34
1985	NA	10.49	9.41	NA	10.13	9.09

Sources of Information on Employment and Earnings

There are several alternative employment and payroll data series available to persons interested in labor force statistics. Due to methodological differences, care must be taken to use the data appropriately. Monthly data reflect pronounced seasonal changes and should be seasonally adjusted where interest centers on cyclical changes. The following summary outlines the distinctive characteristics of the major series and provides a guide to sources of more detailed information.

LABOR FORCE STATISTICS. Resident civilian labor force and employment statistics provide information about the size of the labor force, the number of persons employed, and the number of persons unemployed. By definition, the labor force is the sum of the employed and the unemployed. The employed portion of the labor force, which includes self-employed persons as well as part- or full-time employees, is estimated on a place of work basis using surveys and adjusted to a place of residence basis using decennial census reports. State estimates of unemployment are based on state unemployment insurance (UI) records with adjustments to include workers not covered by the UI program in each state, including estimates of new entrants to the labor force not yet employed. These data do not provide industry detail, but are available for states, counties, and selected SMSAs on a monthly basis.

PAYROLL STATISTICS. Nonagricultural wage and salary employment, also called payroll employment, is estimated each month on the basis of information provided by a sample of cooperating establishments on data collection forms called "shuttle schedules." The data are collected each month by state employment agencies. These data are available for states, counties, and selected SMSAs on a monthly basis. The shuttle schedules also provide monthly data on average hours and earnings for production and related workers in selected industries. Although providing considerable detail by industry, this series does not cover farm workers, the self-employed, unpaid family workers, or military personnel.

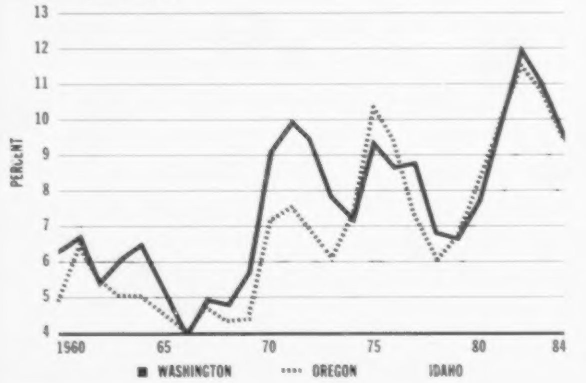
UNEMPLOYMENT INSURANCE STATISTICS. The quarterly "covered employment" statistics include employment and payroll data by industry for employees who are covered by state UI programs. Although providing more extensive industry detail than the monthly payroll statistics, not all workers are covered by state insurance programs. Comparability over time and among states is not assured because of eligibility differences.

OTHER EMPLOYMENT RELATED DATA SERIES. In addition to the different measures of employment described above, other data series are available describing the demographic features of workers, wage rates, occupational distributions, and other characteristics of the working and unemployed population in each state. Further information may be obtained by contacting the statistical division of the state employment agencies: the Department of Employment, Bureau of Research Analysis in Boise, Idaho; the Department of Human Resources Employment Division, Research Statistics Section in Salem, Oregon; and the Employment Security Department, Labor Market and Economic Analysis Board in Olympia, Washington.

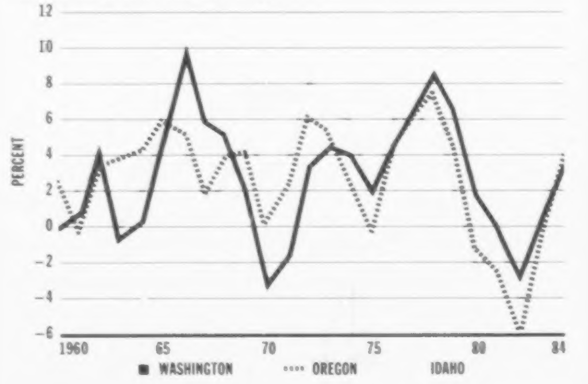
NOTES:

1. Calculated using U.S. Bureau of Economic Analysis population figures.
2. Washington State Employment Security Department, State of Oregon Employment Division, and State of Idaho Department of Employment. Due to methodological changes, Oregon data prior to 1970, Washington data prior to 1966, and Idaho data prior to 1974 are not directly comparable to later data.
3. Washington State Employment Security Department, State of Oregon Employment Division, and U.S. Bureau of Labor Statistics, Employment, Hours, and Earnings.
4. Computed using the U.S. Consumer Price Index for urban wage earners and clerical workers (CPI-W) from the U.S. Bureau of Labor Statistics.
5. Excludes workers in labor disputes.
6. Washington data on fabricated metals, machinery, chemicals, and trade industries deviate slightly from BLS definitions, and hence are not strictly comparable to data from other states.

UNEMPLOYMENT RATES[2]



PERCENT CHANGE IN PAYROLL EMPLOYMENT



NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT, 1985[2, 5]

by industry
in thousands

	WA	OR	ID
TOTAL NONAGRICULTURAL EMPLOYMENT	**1,707.6**	**1,029.0**	**338.3**
MANUFACTURING	**294.1**	**199.9**	**55.2**
DURABLE GOODS	**204.2**	**145.3**	**27.1**
Lumber and Wood Products	37.9	63.5	13.6
Furniture and Fixtures	3.7	2.7	NA
Stone, Clay and Glass Products	6.5	3.0	0.9
Primary Metals	12.8	8.8	NA
Aluminum	8.6	NA	NA
Fabricated Metals	9.6	11.1	1.8
Machinery, excluding electrical	16.8	15.7	6.0
Electrical Equipment	12.4	14.1	2.8
Transportation Equipment	89.3	9.4	NA
Aerospace	76.0	NA	NA
Other Transportation Equipment	13.4	NA	NA
Instruments and Related Products	10.8	14.5	NA
Other Durable Goods	4.4	2.5	2.0
NONDURABLE GOODS	**89.9**	**54.6**	**28.1**
Food and Kindred Products	31.0	24.1	16.7
Textiles, Apparel and Allied Products	6.2	4.1	NA
Paper and Allied Products	16.4	9.2	1.8
Printing and Publishing	17.5	11.5	4.2
Chemicals and Allied Products	11.3	1.9	3.6
Other Nondurable Goods	7.5	NA	1.8
NONMANUFACTURING	**1,413.5**	**829.1**	**283.1**
MINING AND QUARRYING	**2.7**	**1.6**	**3.9**
CONSTRUCTION	**79.9**	**32.1**	**15.6**
TRANSPORTATION, COMMUNICATION AND UTILITIES	**93.7**	**58.0**	**19.3**
TRADE	**421.6**	**258.8**	**84.6**
Wholesale Trade	106.0	66.4	20.6
Retail Trade	315.6	192.4	63.9
FINANCE, INSURANCE AND REALTY	**99.2**	**66.9**	**23.7**
SERVICE AND MISCELLANEOUS	**373.4**	**214.5**	**65.8**
GOVERNMENT	**343.0**	**197.1**	**70.3**
Federal	69.9	28.9	11.7
State and Local	273.1	168.2	58.6
Education	142.3	94.7	32.4
Other	130.8	73.5	26.1

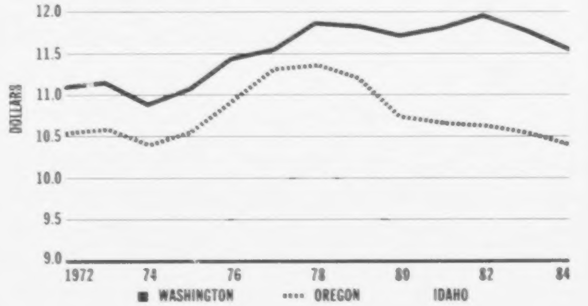
AVERAGE HOURLY EARNINGS, 1985[3, 6]

by industry
in dollars

	WA	OR	ID
MANUFACTURING	**NA**	**10.49**	**9.41**
DURABLE GOODS	**NA**	**10.67**	**NA**
Lumber and Wood Products	11.55	11.14	10.28
Furniture and Fixtures	NA	7.93	NA
Primary Metals	13.03	11.68	NA
Fabricated Metals	11.49	9.88	NA
Machinery	9.63	NA	NA
Machinery, excluding electrical	NA	10.61	NA
NONDURABLE GOODS	**NA**	**9.97**	**NA**
Food and Kindred Products	9.49	8.48	7.95
Canning and Preserving	NA	7.22	NA
Textiles, Apparel and Allied Products	NA	5.89	NA
Paper and Allied Products	NA	14.49	NA
Printing and Publishing	NA	11.11	NA
Chemicals and Allied Products	13.72	NA	NA
NONMANUFACTURING	**NA**	**NA**	**NA**
MINING AND QUARRYING	**NA**	**NA**	14.57
CONSTRUCTION	**16.22**	**13.89**	**13.42**
TRANSPORTATION, COMMUNICATION AND UTILITIES	**NA**	**12.31**	**NA**
TRADE	**9.28**	**8.51**	**7.28**
Wholesale Trade	NA	10.32	7.65
Retail Trade	NA	7.48	7.08

REAL HOURLY EARNINGS

of manufacturing production workers, in 1984 dollars



Assessing Business Climate in the Pacific Northwest

Business climate is a controversial factor in the competition among states for new industrial plants. The term *business climate* refers to a composite of many variables including tax burdens on business, quality of infrastructure, regulatory impacts, availability of special incentive programs such as tax deferrals, and quality of life. An index of business climate measures a state's ability to provide a favorable environment for conducting a business. Business climate, therefore, may be an important consideration in business siting decisions.

Rankings of states on business climates are frequently cited by groups which favor or oppose particular economic development, regulatory, or tax initiatives under discussion in our state legislatures. Discussions of business climate abound at local Chambers of Commerce. Debates rage in our business schools on the significance of business climate relative to fundamental economic considerations in siting plants.

Business climate does seem to matter in some plant siting decisions. Access to materials, labor, and transportation at the right prices and quality is essential to any business. In a siting decision, the residential location preferences of key executives in the firm probably matter a great deal as well. If, after consideration of these factors, more than one potential site for a plant is left, then business climate may play a role.

For example, Washington's High Technology Coordinating Board recently conducted a survey of thirty-two high technology companies. Seventeen of these companies reported that they located in Washington because the founder of the firm was a native of the state. The remaining fifteen companies chose a Washington site for a variety of reasons including state incentives and proximity to their markets.

The president of the new RCA-Sharp plant at Camas, Washington has stated that three closely competitive sites were considered, and that Washington's property tax deferral for new plant investment by an out-of-state firm and absence of a state income tax made the Camas site superior to its competitors in Oregon and Colorado. On the other hand, *The Oregonian* (November 14, 1985) reports that Louisiana-Pacific recently agreed to lease a waferboard mill near Klamath Falls, Oregon in spite of Louisiana-Pacific executives' perception that the business climate in that state is unfavorable. The availability of labor and raw material in the Klamath Falls area outweighed the business climate issues according to Louisiana-Pacific spokespersons quoted in the article.

While the staff of *Pacific Northwest Executive* can not pretend to know the true significance of business climate, we are interested in how one measures business climate and the implications of alternative measurement strategies on the rankings of Pacific Northwestern states relative to the rest of the nation. Several studies of the business climate in the Pacific Northwest have been published. *Inc.* magazine, for example, publishes a "Report on the States" each year, and the High Technology Coordinating Board recently published a report on the business climate as perceived by high technology companies.

Our focus in this article is on the business climate studies of Alexander Grant & Company, which publishes annual reports on the relative ranking of each state's business climate for manufacturing companies. Pacific Northwestern states tend to rank fairly low in the Grant & Co. listings. In 1985, Washington was ranked at thirty-seventh place and Oregon at forty-fourth place. Idaho did better with an eighteenth place ranking. South Dakota took first place in this study, with North Dakota second, Florida third, and Nebraska fourth. Joining Washington and Oregon at the bottom of the list were West Virginia, Maine, Rhode Island, and Michigan.

These rankings are perplexing because they do not seem to be consistent with patterns of industrial growth. None of the top four states are major industrial centers. The least favorable business climate exists in Michigan, which is a major industrial state

Table 1: Projected Long-term Employment Growth Rates
selected states

	BUSINESS CLIMATE RANKING	SCORE	ACTUAL GROWTH MANUFACTURING EMPLOYMENT AARG, 1973-83	PROJECTED GROWTH MANUFACTURING EMPLOYMENT AARG, 1983-2000
South Dakota	1	94.9	2.8	2.6
North Dakota	2	75.4	2.3	1.5
Florida	3	75.0	2.2	2.1
Nebraska	4	74.3	−0.7	1.3
Idaho	18	59.6	0.9	2.1
Washington	37	36.2	1.5	1.9
Oregon	44	25.9	−0.2	1.8
West Virginia	45	23.2	−3.5	0.8
Maine	46	20.0	0.6	1.3
Rhode Island	47	17.2	−0.6	0.8
Michigan	48	11.1	−2.8	1.1

Sources: Business Climate Ranking and Score—Grant & Co., *General Manufacturing Climate*, 1985. 1973-83 Employment AARG and 1983-2000 Employment AARG Projection—*Survey of Current Business*, May 1985 albeit a troubled one. The manufacturing sectors in Washington and Oregon far outweigh that of our smaller neighbor, Idaho; yet Idaho is ranked far ahead of Washington and Oregon.

One might think that business climate is more closely related to the rates of growth of state manufacturing sectors than to their current sizes. Actual growth rates for manufacturing employment from 1973 to 1983, and projected growth rates from 1983 to 2000, are shown in Table 1 for the top four, bottom four, and the three Pacific Northwestern states. While there is an apparent correlation between the growth rates and the manufacturing business climate rankings, the correlation is far from perfect when all forty-eight continental states are included.

The correlation (R^2) between each state's rank in the 1985 Grant & Co. study and the actual Average Annual Rate of Growth (AARG) of manufacturing employment in each state from 1973 to 1983 is .07 while the correlation of the actual weighted score with AARG is .06. While statistically significant, these correlations explain very little of the variance. The correlations of the rank and weighted score with the projected AARG for the years 1983-2000 as calculated by the U.S. Bureau of Economic Analysis are even lower: .04 for rank and .03 for the weighted score. These low correlations indicate that manufacturing industries grow despite less than ideal business climates, and that growth does not necessarily occur in highly ranked states.

One reason that the correlations are not perfect is that industries have very different economic characteristics; therefore, they should have very different perceptions of the business climate. The Pacific Northwest has distinct manufacturing specialties compared to the nation as whole. Aerospace, aluminum smelting, food processing, and lumber and wood products are more important industries in the Pacific Northwest than they are nationally. Consequently, a business climate index appropriate to an average manufacturing firm looking nationwide for a plant site may not be at all similar to an index constructed specifically for the kinds of firms that find the Pacific Northwest attractive. Thus, we decided to see how the forty-eight continental states rank on an index constructed from the perceptions of firms operating in the Pacific Northwest.

The *Pacific Northwest Executive* Survey

For purposes of comparability, we chose to replicate the Grant & Co. methodology as closely as possible, with the exception that the relative weights given to various components of the business climate index reflect the perceptions of a sample of businesses operating in key industries in the Pacific Northwest.

The Grant & Co. methodology focuses on five areas important to business climate: (1) state and local government fiscal policies, (2) state regulated employment costs, (3) labor costs, (4) availability and productivity of labor force, and (5) other manufacturing related issues. Four or five specific indicators are used within each area, for a total of twenty-two specific indicators (see Table 2).

Industry-specific Weights

One of the major conceptual problems with the Grant & Co. methodology is that it can only be properly applied to an "average" manufacturing firm. Recognizing that Pacific Northwest industry is specialized in quite different industries than the aggregate of all U.S. manufacturing facilities, the staff of *Pacific Northwest Executive* decided to explore the implications of collecting industry-specific factor weights from Pacific Northwestern manufacturing firms themselves.

Two manufacturing sectors were selected because of their importance in regional economic development strategies: electronics and food processing. Electronics and other high-tech firms are being eagerly sought by economic development officials of Oregon and Washington. Food processing has been recommended as a target industry by a consultant to Tacoma's Economic Development Board and has been discussed in Seattle Chamber of Commerce committee meetings as well. Yet these two industries are very different in the kinds of skills and capital equipment they

Table 2: Alexander Grant & Company's Manufacturing Climate Index
general areas and specific factors

A	**STATE AND LOCAL GOVERNMENT FISCAL POLICIES**
A1	State and local taxes per $1.000 of personal income
A2	Percent change over three years in state and local taxes per $1.000 of personal income
A3	State and local government general expenditure growth versus general revenue growth over three years
A4	State and local government debt per capita
A5	Welfare expenditure
B	**STATE REGULATED EMPLOYMENT COSTS**
B1	Average unemployment compensation benefits paid per covered worker per year
B2	Net worth of state unemployment compensation trust fund per covered worker
B3	Maximum weekly payment for permanent and temporary total disability under workers' compensation insurance
B4	Weighted average workers' compensation levels per $100 of payroll for manufacturing classifications
C	**LABOR COSTS**
C1	Annual average hourly manufacturing wage
C2	Percent change over three years in average hourly manufacturing wage
C3	Union manufacturing employment as a percent of total manufacturing employment
C4	Percent change over two years in unionized manufacturing work force
D	**AVAILABILITY AND PRODUCTIVITY OF LABOR FORCE**
D1	Government funded vocational education enrollment as a percentage of the population aged 16-64
D2	Percentage of adults aged 25-64 with at least high school education
D3	Average percent over two years of manufacturing working time lost due to work stoppages involving 1.000+ workers
D4	Value added by manufacturing employees per dollar of production payroll
D5	Annual average hours worked per week
E	**OTHER MANUFACTURING RELATED ISSUES**
E1	Fuel and electric energy costs per million BTUs for manufacturers
E2	Net pollution abatement expenditures as a percentage of the value of manufacturing shipments
E3	Population density per square mile
E4	Net change in population over three years

employ, making different perceptions of business climate likely.

A random sample of 183 firms was selected from lists of firms operating manufacturing plants in the electronics or food processing industries in Washington, Oregon, or Idaho. Each firm was mailed a questionnaire asking for rankings of the importance of the five general areas used by Grant & Co., and of the four to five specific factors in each of the general areas. A total of 70 firms returned usable questionnaires, providing an overall response rate of 38 percent. A check on the state by state results showed that there were no statistically significant differences when food processors or electronics firms were separated by state. Of the 70 respondents, 36 were from food processing firms and 34 were from electronics firms.

Factor Scores

Data on the twenty-two factors themselves were extracted from the Grant & Co. report for 1985, and the Grant & Co. methodology for constructing weighted factor scores was followed as closely as possible. The methodology involves a combination of *objective scores* and *subjective weights* on the twenty-two specific factors, as well as *subjective weights* on the five general areas.

The scores are developed from secondary data on the specific indicators. Weights for the relative importance of the five areas and for the relative importance of each specific factor were developed from interviews with representatives of thirty-seven state manufacturing associations. The objective scores and weights are then manipulated to produce an overall weighted score for each state, and weighted scores for each of the twenty-two specific factors. Tables are then constructed showing the relative importance assigned to each of the twenty-two specific factors after the area and factor weights are applied, as well as tables showing the ranks of the forty-eight continental states on the overall weighted score. Table 3 shows the broad area weights as well as the specific factor weights resulting from the survey of food processing and electronics firms in the Pacific Northwest, and the comparable numbers from the 1985 Grant & Co. study.

As we suspected, firms operating in specific industries in the Pacific Northwest perceive the relative importance of the broad areas and the specific factors a bit differently than the thirty-seven manufacturing association representatives polled by Grant & Co. While the Grant & Co. study presents labor costs as the most important broad area affecting business climate, electronics companies in the Pacific Northwest place labor costs second, putting availability and productivity of the labor force in first place instead. Food processors in the Pacific Northwest agree with Grant & Co. that labor costs is the most important area.

The regional food processors place state regulated employment costs second on the list, availability and productivity of the labor force third, state and local government fiscal policies fourth, and other issues such as energy costs last. The regional electronics firms place state regulated employment costs third in importance, state and local government fiscal policies fourth, and miscellaneous issues last. Grant & Co. placed availability and productivity of the work force second, state and local government fiscal policies third, state regulated employment costs fourth, and miscellaneous issues last.

These results are consistent with the no-

Table 3: Area and Specific Factor Weights
Pacific Northwest Executive *and Grant & Company surveys*

CATEGORY WEIGHTS

Pacific Northwest Executive Survey				Grant & Company Survey	
Food Processing		Electronics		All Manufacturing	
AREA	**SCORE**	**AREA**	**SCORE**	**AREA**	**SCORE**
C	21.54	D	21.98	C	22.15
B	20.66	C	21.52	D	21.87
D	20.19	B	19.55	A	20.66
A	19.70	A	19.40	B	18.35
E	17.90	E	17.55	E	16.97

WEIGHTED FACTOR SCORES

Pacific Northwest Executive Survey				Grant & Company Survey	
Food Processing		Electronics		All Manufacturing	
FACTOR	**SCORE**	**FACTOR**	**SCORE**	**FACTOR**	**SCORE**
C3	5.61	C1	5.67	E1	7.78
C1	5.61	C2	5.48	C1	7.05
C2	5.52	C3	5.40	C3	6.56
E1	5.51	B1	5.25	D3	5.58
B4	5.49	B4	5.20	B4	5.55
B1	5.36	E1	5.08	A1	5.06
B3	5.25	B3	5.01	D4	5.04
C4	4.80	D4	4.98	A3	4.76
E2	4.64	C4	4.97	C2	4.70
D4	4.61	D3	4.46	B1	4.38
B2	4.55	D5	4.46	B2	4.37
A1	4.46	E2	4.44	A2	4.21
D3	4.38	A1	4.38	D2	4.14
D5	4.18	D2	4.28	B3	4.04
A2	4.06	A2	4.16	E2	3.94
A3	4.00	E3	4.13	D1	3.87
E3	3.93	B2	4.09	C4	3.84
E4	3.82	A3	3.97	A4	3.71
A4	3.70	E4	3.89	D5	3.24
D2	3.70	D1	3.79	A5	2.93
A5	3.47	A5	3.47	E4	2.71
D1	3.32	A4	3.42	E3	2.54

tion that every industry is different in terms of the importance it places on various aspects of business climate. With an emphasis on high technology and a rapidly changing marketplace, electronics firms seem to be more concerned about the availability and productivity of their work forces than about labor costs per se. With a more stable technological base, food processing firms may see labor costs as one of the few areas of opportunity (or risk) in an increasingly competitive marketplace. To average these concerns together in a single all-manufacturing index would seem to be a poor choice.

Many additional differences can be found in the lists of the twenty-two specific factors in Table 3. These lists have been sorted so that the most heavily weighted factors are at the top of the lists. The key to the letter codes designating each factor can be found in Table 2. Some of the differences in these lists are indicative of the unique strengths of the Pacific Northwest economy, as well as differences across industries in input requirements. For example, energy cost is the most heavily weighted factor in the Grant & Co. study, yet it shows up in sixth place in the Pacific Northwest electronics firms ranking, and fourth among the food processors. Employee-hours lost to work stoppages is ranked in fourth place by Grant & Co., but in tenth place by regional electronics firms, and in thirteenth place by regional food processors.

Write-in Comments

Responding firms offered a number of suggestions about additional factors that are important to business climate. Of forty-one suggested additional factors, twenty-two related to state governmental programs, or the government's attitude towards business. Education and transportation programs (five and four comments, respectively) received particular attention. While these comments seem to suggest that governmental programs contribute positively to business climate, other aspects of government seem to have the opposite impact. Governmental regulation and generally negative attitudes towards business were mentioned in eight comments. Of the remaining remarks, eleven related to various aspects of the markets for inputs and outputs of the respondents' businesses, four related to categories already tapped in some way by Grant & Co.'s list of factors, and four are best categorized as miscellaneous.

The major implication of these observations is that governmental programs have potentially important impacts on business climate, yet the benefits of these programs to business are not measured by the Grant & Co. study. This seeming omission may be due to the Grant & Co. strategy of restricting the factor list to items easily measured using secondary data.

However, the annual surveys by *Inc.* magazine show that elementary efforts to measure the benefits of governmental programs to business are possible using secondary data. Washington, a state rated poorly in the Grant & Co. study because of its high taxes and state regulated employment costs, ranks considerably higher in the *Inc.* surveys which consider the benefits of government to business. In *Inc.*'s 1985 "Report on the States," Washington ranks twentieth among the forty-eight continental states, as compared with thirty-seventh in the 1985 Grant & Co. study.

State Rankings

When the Pacific Northwest food processing and electronics firms' factor weights were used in lieu of the Grant & Co. weights to calculate state scores, a number of states' ranks shifted. Use of the food processing weights resulted in Wyoming moving up four places, and Massachusetts moving up three places. Kentucky and Oklahoma lost three places, and Utah lost four places. Somewhat similarly, use of the electronics weights resulted in upward moves for Massachusetts (four places), and Connecticut, Georgia, New Jersey, New York, and Wyoming (three places each). Oklahoma lost three places, and Kentucky and Utah lost four places each.

The three Pacific Northwestern states were among the many whose relative rankings were unaffected by the use of these alternative weights, however. When the food processing weights were used to calculate state scores, thirteen states' rankings were unaffected; when the electronics weights were used, eleven states' rankings were unaffected. Small gains or losses of one or two places resulted for the remaining states. Thus the vast majority of the rankings are not affected very much by the particular weights used to calculate state score. The underlying objective data indicators used by Grant & Co. are what really determine their state rankings.

This is a surprising result since business climate is very much a matter of perception. If perceptions do not count in the business climate ratings of Grant & Co., it is difficult to understand just what it is that the Grant & Co. index is measuring.

Conclusions

Business climate is but one factor among many in determining where firms locate. As one survey respondent put it, "We must consider all aspects of the work force and industry, but in most cases the product and the consumer are the driving force." Only when consideration of these fundamental factors leaves a choice of sites does business climate play a measurable role in the siting decisions of firms. This conclusion is consistent with the finding that there is a relatively low correlation between actual or projected rates of manufacturing employment growth and business climate as measured by Grant & Co.

How one measures business climate certainly affects the conclusions one draws about it. As our respondents indicated, the lack of factors assessing the benefits of governmental programs is a serious omission from the Grant & Co. methodology, especially given the weight their methodology places on the costs of governmental programs. The *Inc.* "Report on the States" shows a higher ranking for Washington than does the Grant & Co. study, and one reason is that the benefits as well as the costs of governmental programs are considered in the *Inc.* methodology.

The weight given to business persons' perceptions about business climate, relative to measures of relevant factors constructed from secondary data, is another important issue. Our survey indicates that Pacific Northwestern food processors place somewhat different weights on various aspects of business climate than do electronics firms in the area, and the weights proposed by these two industries are still different from the all-manufacturing weights used by Grant & Co. Yet the final state scores as calculated by Grant & Co. are little affected by these three alternative sets of weights.

All things considered, we suspect that the next edition of the Grant & Co. study will again show low rankings for the Pacific Northwestern states. But we also suspect that the regional manufacturing economy will continue to grow in spite of these rankings due to its fundamental economic characteristics.

Washington State Budget Issues

by Glenn R. Pascall

Washington state is going through a crucial period of economic restructuring marked by high unemployment, stagnation in personal income growth, and the decline of some basic industries. In this new environment, we need to take a hard look at how the state is reacting to these changes.

Recently I analyzed key state fiscal issues, including tax burden, budget trends, and the components of budget growth such as the number of state employees, the impact of federal regulations, and the funding of higher education. The major questions I asked and the results of my analysis follow.

How does Washington compare to other states in taxes and spending?

WASHINGTON TAX RANKING IN 1984	
State taxes per person	8th
Local taxes per person	35th
Combined state and local taxes per person	13th
Combined taxes as a percentage of personal income	18th
Combined taxes plus user fees, tuition, and other charges, as a percentage of personal income	22nd
Total federal, state, and local spending relative to personal income	24th

Source: Senate Ways & Means Committee

The eighteenth place ranking for combined state and local taxes as a percentage of personal income is probably the most important single measure of Washington's comparative standing among the states in the burden imposed by the government. State and local taxes must be combined for a realistic picture because of the wide variance among states in the portion of health, education, and welfare costs borne by the state rather than local government. In Washington, these program costs are largely funded through state rather than local taxes and this is reflected in the data. It can be seen that use of state data alone would give an alarmingly high ranking while use of local data alone would give a deceptively low ranking. Only the combined figure is representative of Washington's true standing among states.

It is also more useful to measure the tax burden against personal income than merely on a per person basis because the portion of earnings taken by taxes is a more informative indicator than just the dollar amount. In addition, personal income levels influence state and local spending by affecting salary surveys which determine comparable pay for government workers.

There is some evidence that public demand for quality and scope of service rises with personal income, especially for educational, cultural, environmental, and recreational programs. Higher incomes are also associated with the level of public works and infrastructure that has been developed and must be maintained.

Is Washington's tax burden rising or falling, and how does the rate of change compare to other states?

From the data in Figure 1, it can be seen that until 1979, the trend was encouraging. Washington outpaced the national average tax burden in the 1960s, was average from 1970 to 1974, dropped below average from 1974 to 1977, and returned to average in 1977 and 1978.

Between 1979 and 1983, however, the pattern was unstable. Washington plunged from twenty-second place in 1979 to thirty-ninth place in 1981 in state and local tax burden relative to personal income. Then it surged back to fifteenth place in 1983.

A chain of events caused these wild swings. Washington's economy is sensitive to high interest rates. This brought on a recession which hit hard in 1979 and continued with little relief until 1983. The productivity of the tax base declined by at least 20 percent during that time. In the depth

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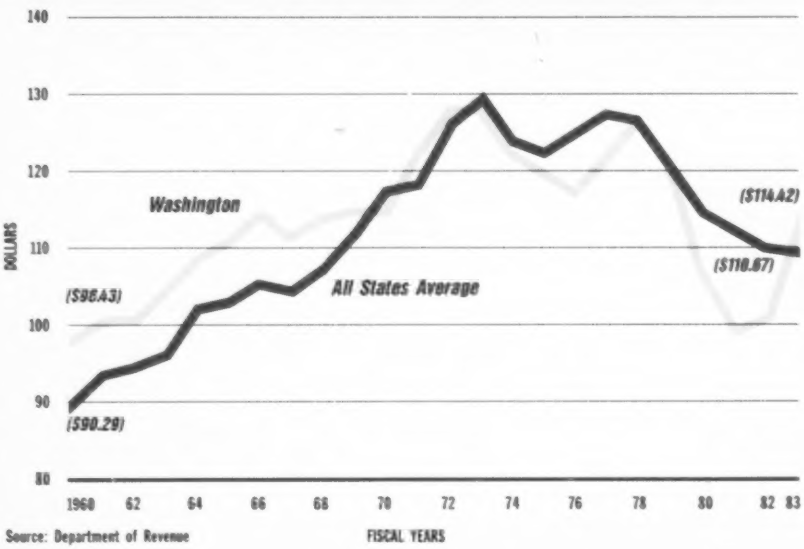
Figure 1: State and Local Taxes per $1,000 Personal Income



Source: Department of Revenue

of the downturn, tax rates were hiked to restore about two-thirds of this loss. When recovery came, the new rates generated steep growth in tax revenue.

The severe-erosion in tax base productivity during 1979–82 was caused by a combination of two related factors. First, Washington is heavily dependent on a retail sales tax which declines sharply in downturns as consumers postpone discretionary purchases of large items. States with a personal income tax experience less volatility because there is no comparable way to defer or avoid this tax. Second, Washington's economy has been undergoing a structural change away from basic industry and toward services, which generate less tax revenue. Recession and restructuring combined to weaken the tax base, setting the stage for rate hikes.

From the wide swings in Washington's ranking, it can be seen that the future is hard to predict. The state is edging back toward the midrange it occupied in the 1970s. This is a good sign, provided the right combination of tax, budget, and economic policies can provide some prospect of stability.

Although this article focuses more on budget issues than tax issues, one point regarding taxes should be noted. The search for stability can not be restricted to major tax revisions. Changes in taxes have proven extremely difficult politically in Washington, Oregon, and many other states. It is only prudent to give equal attention to changes within the existing tax system to (1) enhance not only stability but fairness among taxpayers, and (2) ensure adequate revenue growth without rate changes over time.

Do long-term state budget trends suggest a cost-control problem?

BIENNIUM	GENERAL FUND/STATE BUDGET GROWTH	PERSONAL INCOME GROWTH	INCOME MINUS BUDGET
1973–75	27%	8%	–19%
1975–77	36%	48%	12%
1977–79	27%	34%	7%
1979–81	36%	28%	–8%
1981–83	18%	13%	–5%
1983–85	21%	12%	–9%
1985–87*	13%	11%	–2%
Cumulative	178%	154%	–24%

The same data, refined for inflation and accounting shifts:

BIENNIUM	GENERAL FUND/STATE BUDGET GROWTH	PERSONAL INCOME GROWTH	INCOME MINUS BUDGET
1973–75	2%	–12%	–14%
1975–77	14%	33%	19%
1977–79	12%	12%	0%
1979–81	13%	3%	–10%
1981–83	–1%	2%	3%
1983–85	13%	4%	–9%
1985–87*	5%	4%	–1%
Cumulative	58%	46%	–12%

*Estimate
Source: Department of Revenue (general fund) and U.S. Dept. of Commerce, Bureau of Economic Analysis (personal income)

The first set of numbers is most often cited in political debate. It shows budget and income data in current dollars for each biennium. The second set of numbers shows real change in the actual purchasing power available to the state and to individuals.

The cumulative totals are based on simple addition and do not include compounding. The last column simply shows how well personal income fared relative to budget growth. The reason the encroachment of the budget on personal income is only half as much in the second set of numbers is that it adjusts for accounting shifts. Most important was the reduction in local property taxes for schools when the state assumed a larger share of funding under the Basic Education Act of 1977. The net impact of the general fund budget increase was less than it appeared because it was offset by property tax relief.

The adjusted figures, however, do reveal that in only two of seven bienniums did real personal income growth exceed real state budget growth. The trend has been in the direction of an encroachment by state spending on personal income.

The difficulty in containing this trend is aggravated by the mediocre rate of personal income growth in Washington state. In 1979, Washingtonians enjoyed an average $500 a year advantage over all Americans. Since then, real per capita income has stagnated in the state and weak growth is projected, while the United States has enjoyed a steady upward trend which accelerated in 1983.

The cause is structural changes in the economy that are eliminating high-paying jobs in heavy industry here faster than they can be replaced by new jobs of comparable value. This personal income stagnation compounds the problem of containing the state budget in relation to private resources. It is a basic problem that would not be solved by tax reform.

Is there any pattern to budget increases from one biennium to the next?

BIENNIUM	REAL BUDGET GROWTH PER CAPITA	TWO-BIENNIUM TOTAL	1ST BIENNIUM PERCENT OF TOTAL
1973–75	–1.1%		0%
1975–77*	10.5%	9.4%	
1977–79	5.3%		45%
1979–81*	6.4%	11.7%	
1981–83	–3.5%		0%
1983–85*	11.0%	7.5%	

*Gubernatorial elections held in Nov. 1976, 1980, and 1984
Source: Office of Financial Management and computations of the author

The preceding table examines budgets from the perspective of gubernatorial terms. The second column shows real budget growth per capita. The third column combines the two budgets of each four-year gubernatorial term. The fourth column shows the portion of total growth in the two budgets which is accounted for by the first biennium of the term.

The data are not sufficient for a firm conclusion but do strongly suggest that the electoral cycle impacts the budget cycle. There is a tendency for the state budget to be subject to restraint in the biennium immediately following a gubernatorial election, and to expand strongly in the biennium falling in the latter part of a term.

Political logic would support this conclusion. Campaign promises and high hopes of imposing fiscal discipline often mark the beginning of a new term. By midterm, the governor's own appointees are proposing agency budgets and are frequently citing the need to make up funding deferrals caused by the current "tight" budget—the one passed to fulfill campaign promises of no new taxes. Thus in midterm the governor often must face pressures from his bureaucracy, without the discipline imposed by a reelection campaign.

Is it true that a large part of budget growth in each biennium is due to a bow wave of prior commitments?

BIENNIUM	BOW WAVE FROM PREVIOUS BIENNIUM (millions of $)	BOW WAVE AS PERCENT OF TOTAL BUDGET	BOW WAVE AS PERCENT OF INCREASE
1973–75	$168	6.4%	43.2%
1975–77	$337	9.8%	41.8%
1977–79	$261	6.0%	28.6%
1979–81	$542	9.2%	35.1%
1981–83	$178	2.7%	22.1%
1983–85	$464	5.7%	32.4%
1985–87	$552	5.9%	46.5%

Source: Office of Financial Management

There is a typical cycle which is repeated each biennium. Pressure builds for a state employee salary increase. The hike is granted, but is scheduled to take effect late in the biennium. Thus its total cost will be small in the current budget, which lacks funding to support anything more. The major impact will fall in the next biennium, whose budget is not yet before the legislature. When the new cycle begins, the prior pay hike, therefore, absorbs roughly one-third of all added revenue, creating pressure to delay the next pay hike until late in the biennium. Thus, the cycle repeats itself.

Washington's ranking in state employee pay has tracked its ranking in average family income very closely. If policy became logical, with state pay hikes beginning on the first of each fiscal year, workers would probably get somewhat lower percentage increases but they would take effect earlier and more frequently. The reason for this is that current practice makes it easier to increase pay by larger amounts per worker because the hikes impact only the final fraction of the current budget. By the same token, however, these hikes are subject to delay.

It is probable that over time there is little cost difference between the current practice and a more clearly logical cycle. Current practice is much more attractive politically for the reasons cited above and because it allows policy makers to point out that the *bow wave* has removed a large portion of discretionary funds from the current budget, thus locking them in to a narrow range of options. Because of its political appeal and its mathematical tendency to be self-perpetuating, the bow wave will probably continue to characterize pay hikes.

Despite this tendency, the bow wave should not be considered a closed issue. For one thing, a regularized pay cycle would carry a benefit in the form of enhanced predictability. This might be worthwhile even without a reduction in net costs.

Furthermore, the bow wave is not locked in by uncontrollable budget drivers. It is caused by policy, or the lack of policy. The trend was broken in 1981–83 because, under stringent budget pressure, the number of state employees dropped. Capping FTE's (full-time equivalent workers) reduces the bow wave by limiting the number of persons to whom pay hikes are paid. This speaks to the second most important cause of the bow wave—workload increases.

There is a tendency late in each biennium to approve higher staffing levels as well as salaries, creating a new base which is rolled forward. Proponents of FTE controls believe the case for staffing increases should have to be made convincingly enough to cause the legislature to raise the FTE cap, which in effect would always be set at or near the current number of employees. Clearly, the tendency of such a system would be to minimize staffing hikes and to restrict the impact of workload increases on the bow wave.

Is there evidence either that the number of state employees is too large or that the hiring trend is too steep?

FISCAL YEAR	STATE/LOCAL EMPLOYEES AS % OF POPULATION	FISCAL YEAR	STATE/LOCAL EMPLOYEES AS % OF POPULATION
1974	1.57	1981	1.61
1975	1.64	1982	1.52
1976	1.66	1983	1.50
1977	1.68	1984	1.54
1978	1.65	1985	1.59
1979	1.64	1986*	1.58
1980	1.62	1987*	1.57

*Estimate
Source: Office of Financial Management

The number of state and local employees in Washington compared to the total population ranks thirtieth among the states. If the projection above is correct, the ratio of state employees to state population in 1987 will be exactly the same as it was in 1974. However, there was a sharp drop during the recession-caused budget "crunch" of 1981–83 and a sharp rebound since then. This has led to considerable controversy. Some have argued the drop was an unsustainable low point while others claim it was a long overdue slimming down to a more efficient level.

Those who defend the current size of the state work force point to Washington's ratio of state and local government employees, which is below the national average. Those who question it note the success some other states have had in work force reduction and also cite the recent exercise carried out by then Director of Revenue A. D. Shinpoch in his department, urging that the same review be applied statewide.

The method is called a depth study. It reviews the span of control—the number of persons reporting to each supervisor—and compares this with job classes and layers of bureaucracy. The depth study found that the Department of Revenue was overstaffed with supervisors. Many positions were consolidated or eliminated.

As a result of this success, Shinpoch now heads the largest state agency, Social and Health Services, where he is currently performing a depth study. Some 14,000 employees are involved, rather than the 650 who were part of the previous study.

The savings from depth studies are more likely to endure than those made in haste during a budget crunch. In the latter case, attrition is often used to implement a hiring freeze. When the freeze is lifted, vital jobs that were vacated must be refilled whereas nonvital jobs that were not vacated persist. By contrast, the depth study uncovers unneeded positions and makes structural reforms.

Changes in civil service law can assist this process. Agency streamlining is impeded by rules which allow workers to revert to former positions if their job is abolished. This leads to many illogical personnel placements. Currently, agency heads are preparing a report to the governor on reforms affecting hiring, firing, and promotion. This report should address the issue of reversion rights to permit the results of depth studies to be applied with full benefit to agency productivity.

Have federal regulations forced the state to overstaff federally assisted programs?

SERVICE POPULATION PER STATE EMPLOYEE

PROGRAM	1974	1979	1984	1987*
Mental Health	0.34	0.87	0.73	0.73
Developmental Disabilities	1.17	0.86	0.64	0.63
Juvenile Rehabilitation	0.81	0.73	1.10	1.09
Prisons	1.97	2.18	1.87	1.58

*Estimate
Source: Office of Financial Management

In each of these programs, except juvenile rehabilitation, there is severe federal pressure to maintain staffing levels. This pressure is accompanied by an almost unceasing threat to remove Washington state facilities from federal accreditation and thus deny funding.

At times the requirements become clearly excessive. For example, school children with drug or alcohol related problems are classified for purposes of treatment as developmentally disabled. The extremely rich staffing ratios developed for mental retardation programs are applied by the U.S. Department of Education to state drug and alcohol programs. This is done by bureaucrats working within a national administration supposedly dedicated to enlarging the sphere of state and local administrative flexibility in return for reduced federal funding. Funding for many of these programs has declined in absolute or inflation-adjusted dollar levels, yet many extreme requirements continue to be imposed.

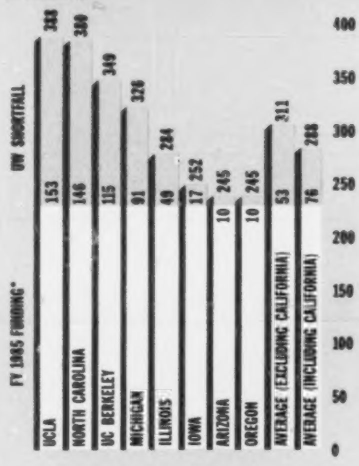
Efforts are under way by members of the state's congressional delegation to negotiate relief from the burden of excessive standards. Some believe similar efforts should be made at the state level to challenge federal court rulings impacting staffing.

Other critics go beyond a focus on negotiating with or challenging federal officials. They suggest that when excessive requirements are imposed, the state should examine the possibility that a wholly state-funded program, or an entirely different type of program, or no program at all be considered as alternatives. In other words, the imposition of unrealistic standards should be used as a decision point for fundamental review of the effort from the perspectives of performance and efficiency.

In the last decade, such a response has occurred in several state and local governments, leading to some well-publicized incidents of terminating what were thought to be basic programs in welfare, mental health, and corrections. It would seem that, at the least, the state would be wise to keep this option clearly available for purposes of negotiating leverage.

How well prepared is Washington's higher education system to meet the challenge of economic restructuring?

COMPARISON OF THE UNIVERSITY OF WASHINGTON WITH PEER INSTITUTIONS
(in millions $)



*Actual per student funding multiplied by UW enrollment
Source: University of Washington

Higher education has suffered the largest decline in share of the state budget experienced by any functional area, from 14.3 percent of the general fund in 1973–75 to 9.9 percent in 1981–83, with a slight rebound to 10.2 percent in 1985–87.

The table above compares the state's largest, and some people believe, most underfunded institution of higher education with universities considered peers. Their funding is shown as if each had the same size student body as the University of Washington, supported with the same dollars per student they actually provide.

Those concerned about Washington's competitive future support additional funding for higher education, particularly for the University of Washington. A good part of this support, however, is dependent upon *targeting*. This means using funds to restore crucial deficiencies or to launch badly needed new programs.

Obviously, this is a controversial area where specific views regarding the merit of various programs differ enormously. There is, however, an underlying bedrock of support for enhancing higher education funding to meet the challenge of economic restructuring by teaching the skills tomorrow's work force will need to be competitive.

This willingness of major segments of the state to back university funding creates an opportunity for those who direct institutions of higher education to develop credible plans for use of additional funds in a manner which clearly benefits the citizens of the state and brightens Washington's economic prospects. In the case of the University of Washington, major areas of opportunity include the high-technology/venture capital/research university link, and specialty areas of research including medicine, Pacific Rim trade, and aerospace. More difficult to define is the complete roster of courses of study which properly belongs in a broader definition of vital skills and competencies.

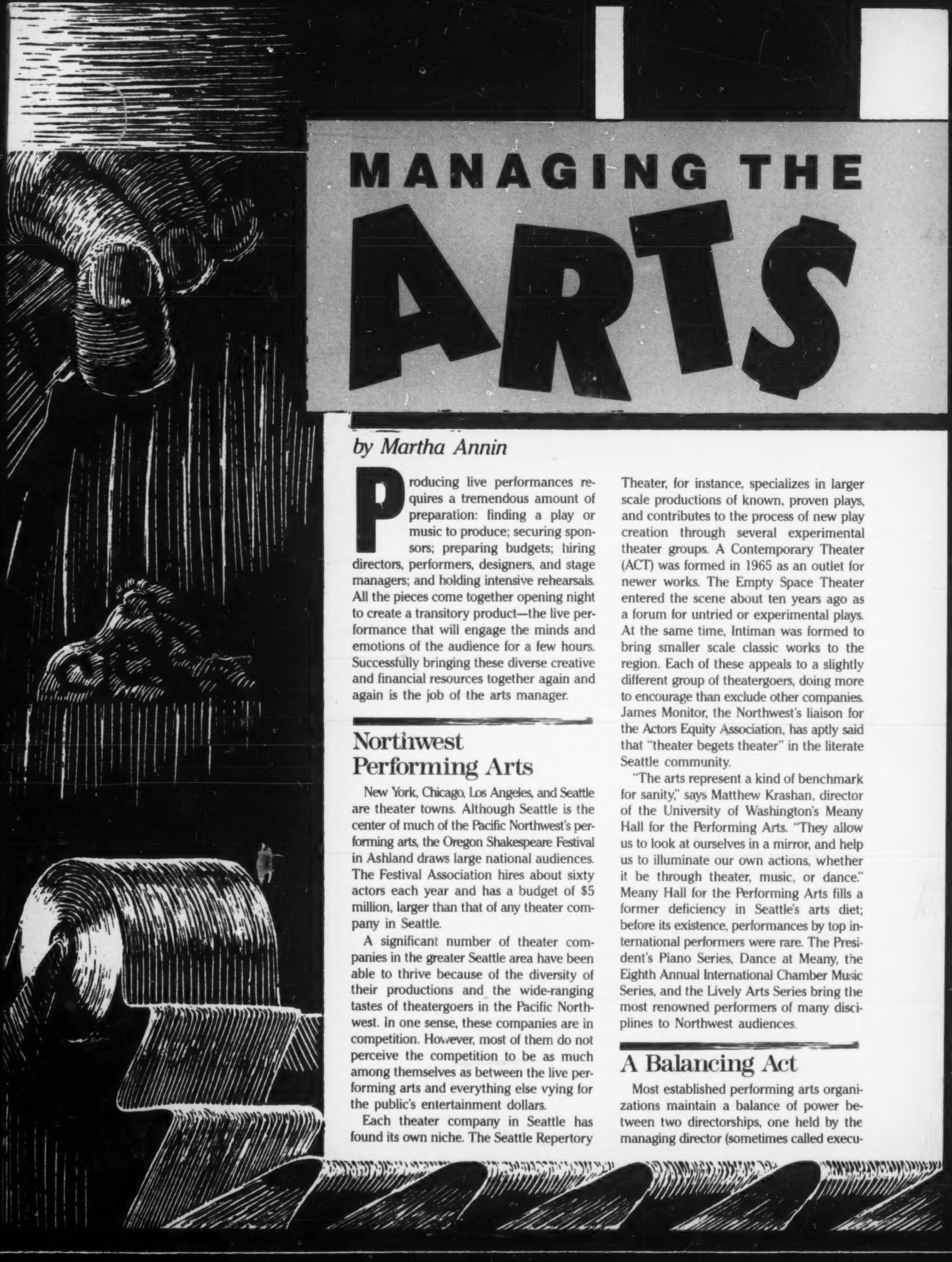
Summary

All in all, the remarkable response of older industrial states to economic crisis has included the ability of supposedly stagnant state governments to achieve dramatic gains in productivity. This success is based on a willingness to consider all programs and personnel practices as open to review and reform, and to recognize that productivity gains create the option of doing the same job with fewer resources or of doing more with the same resources.

The political foundation of state government reform is the recognition that in times of critical transition, the state's mission is to preserve and enhance its strengths, so that there may be a bright future of economic opportunity and achievement.

► The full report on Washington State Budget Issues may be obtained by writing to Betty Jane Narver, Director, Institute for Public Policy and Management, DP-40, University of Washington, Seattle, WA 98195.

GARY JACOBSEN



MANAGING THE ARTS

by Martha Annin

Producing live performances requires a tremendous amount of preparation: finding a play or music to produce; securing sponsors; preparing budgets; hiring directors, performers, designers, and stage managers; and holding intensive rehearsals. All the pieces come together opening night to create a transitory product—the live performance that will engage the minds and emotions of the audience for a few hours. Successfully bringing these diverse creative and financial resources together again and again is the job of the arts manager.

Northwest Performing Arts

New York, Chicago, Los Angeles, and Seattle are theater towns. Although Seattle is the center of much of the Pacific Northwest's performing arts, the Oregon Shakespeare Festival in Ashland draws large national audiences. The Festival Association hires about sixty actors each year and has a budget of $5 million, larger than that of any theater company in Seattle.

A significant number of theater companies in the greater Seattle area have been able to thrive because of the diversity of their productions and the wide-ranging tastes of theatergoers in the Pacific Northwest. In one sense, these companies are in competition. However, most of them do not perceive the competition to be as much among themselves as between the live performing arts and everything else vying for the public's entertainment dollars.

Each theater company in Seattle has found its own niche. The Seattle Repertory Theater, for instance, specializes in larger scale productions of known, proven plays, and contributes to the process of new play creation through several experimental theater groups. A Contemporary Theater (ACT) was formed in 1965 as an outlet for newer works. The Empty Space Theater entered the scene about ten years ago as a forum for untried or experimental plays. At the same time, Intiman was formed to bring smaller scale classic works to the region. Each of these appeals to a slightly different group of theatergoers, doing more to encourage than exclude other companies. James Monitor, the Northwest's liaison for the Actors Equity Association, has aptly said that "theater begets theater" in the literate Seattle community.

"The arts represent a kind of benchmark for sanity," says Matthew Krashan, director of the University of Washington's Meany Hall for the Performing Arts. "They allow us to look at ourselves in a mirror, and help us to illuminate our own actions, whether it be through theater, music, or dance." Meany Hall for the Performing Arts fills a former deficiency in Seattle's arts diet; before its existence, performances by top international performers were rare. The President's Piano Series, Dance at Meany, the Eighth Annual International Chamber Music Series, and the Lively Arts Series bring the most renowned performers of many disciplines to Northwest audiences.

A Balancing Act

Most established performing arts organizations maintain a balance of power between two directorships, one held by the managing director (sometimes called executive director or chief executive officer), and one held by the artistic director. In addition, there is usually a volunteer board of directors composed of prominent business leaders. The board forms advisory committees to study specific problems and make recommendations to the managing director.

Commenting on this relationship between art and business, Mark Walker, executive director of the Seattle Symphony, said, "Artistic excellence is not always compatible with a balanced budget. It is a delicate thing, this compromise. If the business manager yields too much to the conductor, it shows up very quickly as a budget deficit, causing pressure from the board of directors to reduce spending."

Although the Pacific Northwest is a friendly environment for the arts, federal funding changes have brought new pressures. Funding from the National Endowment for the Arts (NEA), which was substantial in the past, has leveled off while arts organizations' budgets are still growing. Some in the arts community believe NEA funds will disappear completely in the future.

Ten years ago, federal funding provided opportunities for high quality performances to be presented outside of urban centers. Young ACT, which started up in 1966 as an offshoot of ACT, toured seven states yearly from September to May. The Empty Space provided a traveling "theater in the park" show throughout the greater Seattle area with such professionally produced melodramas as *Deadwood Dick* and *The Day They Came From Way Out There.* These free shows had a regular following of all ages who settled in with picnics and blankets for a relaxing afternoon. Since the cuts in federal funding, many of these touring programs have been eliminated, leaving a large gap where the arts were once available to those without other access.

The Seattle Repertory Theater, which opened its doors in 1963, is the largest and oldest theater company in the area. The city's support of the "Rep" is evident in many ways; the most constant is the base of twenty-five thousand subscribers that helps the Rep earn 75 percent of its revenue through ticket sales, instead of the 50 to 60 percent that is typical of performing arts organizations. Community support was strongly expressed in 1972 when a city bond issue was passed with $7.8 million earmarked for construction of a resident theater. In the years between passage of the bond and groundbreaking for construction in 1983, inflation took its toll on the buying power of the available funds. In response to this dilemma, a board of directors' committee gathered corporate and private funding to secure the additional $2.2 million necessary to construct the Bagley Wright Theater at the Seattle Center. The Rep's offices and scene shops had been spread throughout Seattle; now the Rep leases the building from the city and houses all its activities there.

Frank Self, director of development for the Rep, oversees all of the organization's fundraising. The SRO, a volunteer auxiliary group of 480 people, raised about $100,000 last year through sales, luncheons, and other activities, and has long been a reliable source of fundraising power. In addition, each member of the Rep's board of directors is assigned a list of possible contributors and a yearly quota to raise. Grant writers specialize in securing federal, state, and local funding. Of the Rep's $3.6 million budget, approximately 25 percent is unearned income, one-third of which comes from private business.

The Arts and Business

The existence of the Corporate Council of the Arts (CCA) in Seattle makes the connection between the arts and the business community a smoother one. The CCA was started by local business leaders to provide stable operating funds from year to year for major arts organizations in the area. In 1985, 425 companies including Boeing, the major banks, and Safeco contributed a total of $1,035,000 through the CCA. After an extensive analysis of submitted materials, twenty-four arts organizations were selected on the basis of need and merit to receive CCA funds.

PONCHO is another source of funds for Puget Sound area arts organizations. After its annual fundraising auction, scheduled this year for April 26, PONCHO plans to distribute $450,000 to thirty-one organizations for 1986. Requests for 1986 funding totaling $1,222,947 were received from seventy-one arts organizations.

Because of the changes in availability of funds, arts organizations have had to sharpen their management skills and revise their operational strategies. Now the managing directors, or *arts managers*, must not only squeeze all possible utility out of governmental funds, but also raise about half of their unearned income from contributions of money and materials from the private sector. The arts manager must convince businesses and the general public that the arts, and his or her organization in particular, warrant their support. Arts managers must also be able to demonstrate that arts organizations know how to use those contributions effectively, as they compete for funding not only among themselves, but also with groups that exist to provide basic food, shelter, and medical care.

"Communication between the arts and business is the key right now," says Arthur Jacobus, president and chief executive officer of Pacific Northwest Ballet. "There are always more ideas and needs than there is money. The role of the arts administrator is to match the resources of the community with the needs of the arts organization."

In twelve years, Pacific Northwest Ballet (PNB) has grown from a start-up company of inexperienced dancers to a mature, nationally recognized ballet company. Its budget has grown from $200,000 to almost $4 million in the last eight years. Jacobus attributes this phenomenal success in an unfavorable time for the arts to the quality and longevity of its artistic directors and the fruits of its ballet school. Thirty percent of the PNB dancers are "ballet babies" from the school who have matured into soloists and principal dancers.

Jacobus himself, with a performance diploma in trumpet and an MBA, exemplifies how the arts and business can be successfully combined. He believes that education and experience in both are necessary because the balance between the two requires knowledge and sensitivity to the needs of each.

From Actor to Manager. Kevin Hughes is an actor from Philadelphia who decided to expand his skills into the administrative side of theater. He learned to run the box office at ACT, and when Pioneer Square Theater opened, he set up its books. In 1981 the Empty Space hired Hughes as acting managing director and launched a national search for a permanent director. The board of directors, after completing its search, decided that Hughes was the best choice for the job. In the meantime, Hughes had found that he did not miss acting at all. In fact, he felt he had more influence in shaping productions as a managing director than he ever had as an actor. When asked to stay on as permanent director, he agreed.

According to Hughes, now executive director of Washington State Allied Arts, many companies encounter a difficult period of adjustment, a sort of adolescence as they approach the $1 million budget mark. The Empty Space, with a budget of around $800,000 has recently arrived at that stage. The move in 1984 to a new home in

Pioneer Square, with more space and more amenities, marked its progress from infancy to adolescence.

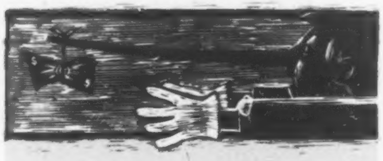
Unlike larger organizations with budgets of $3 million or more, the Empty Space has no large established fundraising machine and competition among smaller organizations for NEA and CCA money is intense. Funds for each production must be secured as a special project. For example, the Empty Space's highly successful production of *K-2* was possible because Recreational Equipment Inc. (REI) contributed cash, equipment, and training worth at least $15,000 in exchange for goodwill and publicity. The partnership between the Empty Space and REI was essential to the success of the production, since the set for the play was a mountainside built onto the stage, where the actors were required to do technical climbing. The riveting play received critical acclaim in both New York and Seattle.

Marketing for the Masses? Fundraising is important in the arts, but a company would never survive long enough to raise funds without ticket sales. Successful arts organizations identify their audience segments and target their programming to them, with larger organizations offering programs for many audiences. The Seattle Symphony, for example, under the leadership of executive director Mark Walker and artistic director Gerard Schartz, has programs designed for at least four distinct audiences: a main orchestra series for the traditional symphony audience, a new music series for those interested in the latest musical developments, a chamber music series for those who enjoy smaller scale works, and a children's series to educate and spark the interest of the younger set.

Although managing a performing arts organization is similar to managing any business organization in most respects, there is one aspect that is fundamentally different. Every arts manager is acutely sensitive to the difficult question unique to the arts in a free market economy: Why should a product that is not profitable, and can not break even through box office receipts, receive government and private subsidies?

An Alternative Strategy

Ted Ross, fundraising coordinator of Pioneer Square Theater (PST), questions the necessity of subsidies as a "given" in arts management. PST is almost breaking even on an $800,000 budget of which 96 percent is earned income. Whether this is a fluke or the result of management skill is difficult to determine.



An Actor's Life

"I hate to be the bearer of bad news, but our Equity benefits have been drastically cut. Our life insurance is gone, our dental plan is gone, and many other benefits have been reduced . . . ." So said Jim Monitor, the Northwest's liaison for the Actor's Equity Association, on its weekly hot line recorded phone message. Monitor says there are 350 Equity members here, 90 percent of which are unemployed at any given time (the word is that New York has an even higher actor unemployment rate).

One well-known actor in Seattle theaters, Bob Wright, has so far enjoyed a successful ten-year career that is exceptional in that he has never had to work at another job. He describes his life as an actor as often rewarding and sometimes frustrating. He has watched theater grow in Seattle; his career has had a parallel development with the Empty Space Theater, where he has worked since its beginning. He has noticed the changes occurring: more fundraisers in organizations, larger budgets to protect, and less risk taking among the contemporary theater companies.

Wright often wishes he had more control over the artistic end of productions than he does as an actor, so he is beginning to try his hand at directing. He recently directed *Puss 'n Boots* for Seattle Children's Theater. "Most of the time, you just do your best to do your job," he says. "In the worst of times you feel like a puppet, a mannequin; in the best of times you feel like you are genuinely doing something illuminating, lending something to the role that it would never have on the page. Between these two extremes is what makes up the actor's life."

Ross and a group of actors, directors, and writers founded Pioneer Square Theater six years ago because they wanted more control over the productions in which they participated. They produced the works of the "outer fringe of New York playwrights, including Sam Shepard before he was popular." Rather than adopting what has become the traditional dual directorship and board of directors, PST is run by a committee. Speaking of the balance of power in a dual directorship, Ross says, "On paper it's like that, but in reality, it never happens. One or the other side ends up having more power."

PST's most well-known production, *Angry Housewives*, designed as a "piece of commercial fluff," has run for over 800 performances in three years without showing signs of declining audience. This hit play also has brought some unexpected prestige to PST; it will be opening in London in April, then touring to New York. *Angry Housewives*, while running concurrently with another hit, *ER—Emergency Room*, temporarily pushed the theater's budget over the $1 million mark in 1984.

Pioneer Square Theater has evolved differently from most arts organizations in two major respects. First, its management structure gives decision-making authority to more people. Second, PST sells no subscription series. If a play continues to run successfully, the company can opt to keep producing it, as they have *Angry Housewives*. PST also has the freedom to test market a play and close it if it is unsuccessful. For example, last April a play called *Ringers* was scheduled to run for three months on the New Stage, the company's smallest, ninety-seat theater. After three days, it was decided that the show was not good enough and it was closed.

Although PST's success is rewarding, it causes one perplexing problem: applications for grants and corporate funds are repeatedly turned down. Therefore the company must live on the edge, not entirely certain what will happen if and when the audience for *Angry Housewives* declines.

The Business of Art

Ten years ago, the Pacific Northwest was considered something of a cultural dustbin. Now, with increasing arts activity, the region is outgrowing its earlier image. The arts industry is maturing, and its leaders and managers are gaining new skills and sophistication in response. Increasing competition for funding and audiences will test these skills, especially if the trend away from governmental funding and toward private sector support continues. The question of the legitimacy of the arts will also be of concern to Pacific Northwest arts organizations, businesses, and governmental agencies as funding becomes harder to find.

Arts organizations are becoming more like other businesses, and arts managers more like business managers, but with a twist. As Zelda Fischlander, the widely respected managing director of The Arena Stage in Washington, D.C., says, "The business of business is business; the business of art is art."

Martha Annin is a graduate student in business at the University of Washington. A pianist and former dancer, she has also worked as a market analyst for NewVector Communications, Inc.

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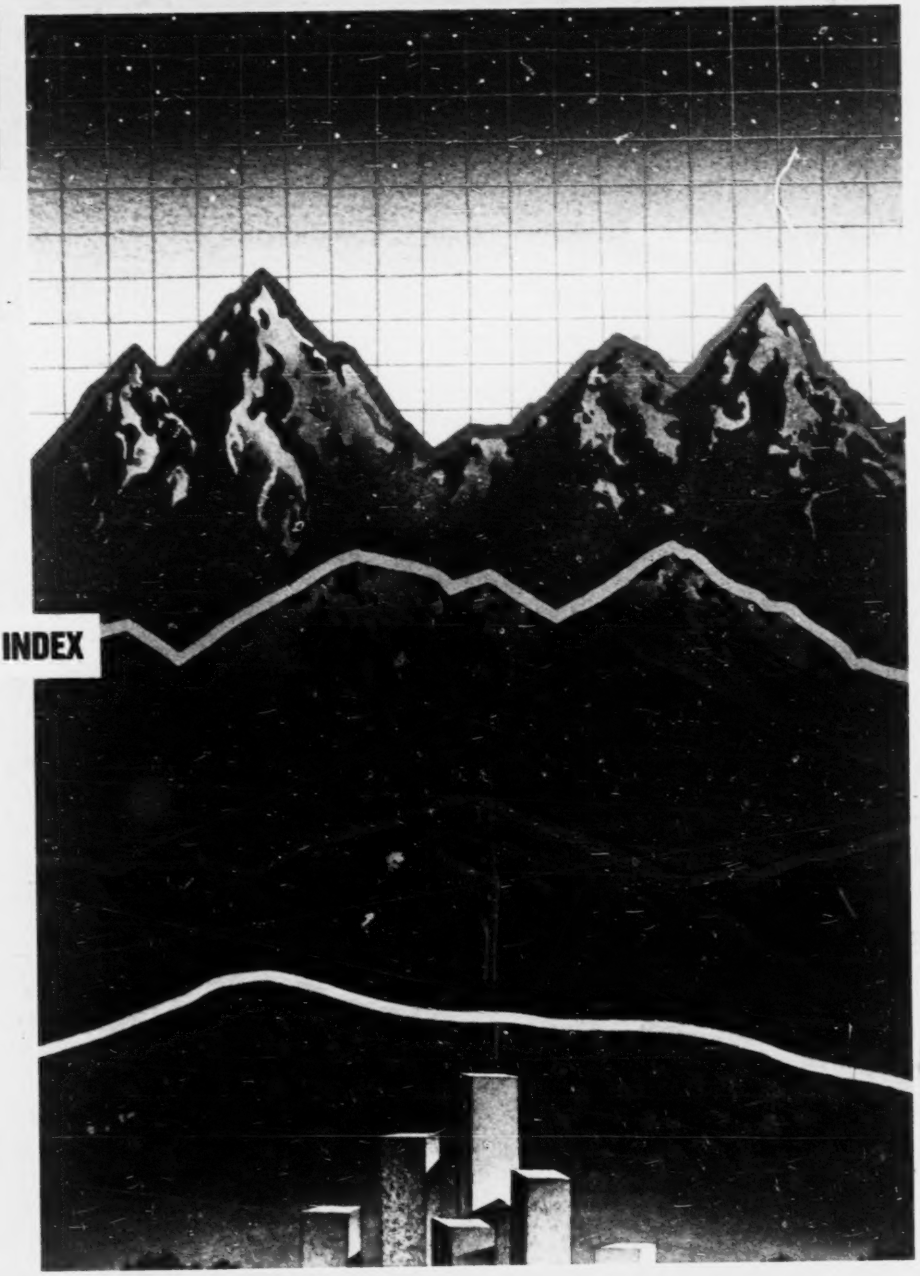

A NEW REGIONAL STOCK INDEX

From the Business Community

In the summer of 1985, I met informally with William Gerberding, president of the University of Washington, and Mary Gates, president of the Board of Regents. We discussed the University's constant struggle to bring faculty salaries to the median level of peer institutions and to secure funding for necessary maintenance of campus buildings, new facilities, and support equipment for an institution that Charles Odegaard has called "the University of a thousand years."

From that conversation emerged a program called UW 2000. Its mission is to determine where the University of Washington's student body, faculty, administration, alumni, friends and supporters, and the public believe the University should commit its resources from now to the year 2000. These groups have identified a number of the University's needs: adequate, stable support from the state; continued excellence in teaching; emphasis of ethnic and cultural diversity; additional scholarships and fellowships for students; expanded library space, staffing, and technology; and greater independence to manage its own support funds. There was also concurrence on the important role private contributions play in ensuring the University's excellence. Such efforts benefit not only the state, but the region as well. **Pacific Northwest Executive** *exemplifies how the University and the private sector can combine resources with excellent results.*

Dr. Gerberding has appointed a task force to establish a priority list of these many important ideas, the first phase of a long-range plan to implement UW 2000. The challenge to all of the constituencies is to join together to translate this vision of the University of Washington's future into reality. It can be done!

Edward E. Carlson
Chairman Emeritus
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PACIFIC NORTHWEST Executive

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BY ED WHITELAW

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The Once and Future Northwest

by Ed Whitelaw

Farmers have lost the land they have worked for generations. Mills have shut down and communities with them. The last person to leave Seattle forgot to turn off the lights and, whoops, left an enormous bill. No wonder managers in the Pacific Northwest are reluctant to look very hard at the past or to reach very far for the future. The recent recession has left many of us tentative, gnawed at by a self-doubt we deny in our brochures but manifest in our actions as we seek strength we assume must be found elsewhere. Is there life after Oregon?

Let's stay with Oregon for a moment since it is the sick man of the region. Oregon had never been more prosperous than it was in the fourth quarter of 1979. By the end of that year, the state had work for more than a million nonfarm wage-and-salary employees. Two years later, over a hundred thousand of these jobs were gone (see Figure 1). In the short view—which was, after all, where the pain was felt—the 1980–82 period was a disaster. Our stars betrayed us and we fell.

However, the same facts appear rather differently if you take a slightly longer view (see Figure 2). In the five years before fourth quarter 1979, Oregon experienced a surge in employment unprecedented in its history. During those years the state moved from below the average growth rate to eighth in the nation, ahead of Washington but behind Idaho. Add these years to the graph and what looked like a cliff becomes a peak. Live fast, die young—at least you have something to remember. Go back to 1960, adding another fifteen years to your view, and the peak becomes a pimple, painful to be sure, and embarrassing, but hardly a terminal condition (see Figure 3). Adolescence is the same; with effort, maturity follows.

Oregon gained employment throughout the sixties and seventies prior to the spurt of growth that made and marred the decade's close. And it is starting to gain employment again as it did before the flash and fall. Yet attitudes towards Oregon's economy and the policies those attitudes foster still seem to be shaped solely by the 1980–82 experience, as if there were nothing else in our past and no other possible future.

Idaho, like Oregon, suffered greatly. From 1979 to 1982 it, too, lost over 10 percent of its nonfarm wage-and-salary jobs, and even now seems reluctant to believe the recession is over.

Washington suffered least, although it may have complained most. It lost less than fifty thousand nonfarm wage-and-salary jobs, roughly 3 percent of its peak employment. The decline was concentrated within a shorter period of time (1981–82), however, and surprised many who thought Washington could not suffer a simultaneous drop in two of its major industries, timber and airplanes. Washington's more varied industrial base did cushion its fall, and President Reagan's defense buildup has strengthened its recovery beyond that of its neighboring states. However, Washington, too, suffers from the malaise afflicting our region. What will we do if Boeing goes—build nuclear waste dumps?

Such self-doubt is more neurotic than real. When three rather different states demonstrate growth of such direction and magnitude over decades (not just quarters or years), their strength exists. Why mope? Managers in the Northwest ought to be up and running.

The Sources of Our Strength

The economies of the Pacific Northwest have been and are strong and growing; that is a simple historical fact. What the graphs do not reveal is the equally impressive fact that the sources of this vitality are ours. Growth in the Northwest has not been imported, as is the case in Alabama and Arizona; nor does it depend precariously upon federal largess, legislative artifice, or one or two beneficent industries. Rather, our growth and, more important, our potential for growth stem from things we in the Northwest have been given such as our location on the Pacific Rim, the steadily increasing migration westward of the American population, and the richness of our forests and fields. Consider the following facts:

- In 1980, U.S. trade with Pacific Rim countries exceeded U.S. trade with Western Europe for the first time, and that lead will only widen through the end of this century and into the next.
- Seventy-six percent of the U.S. population west of Denver lives within 120 miles of Interstate 5, and the westward migration continues.
- Despite more than a century of heavy harvesting (some say overcutting on private industry lands), the Northwest, principally Oregon and Washington, still has more softwood saw-timber standing in its forests than all of the South including Texas, plus California. And the Douglas fir remains the preferred tree for softwood lumber.

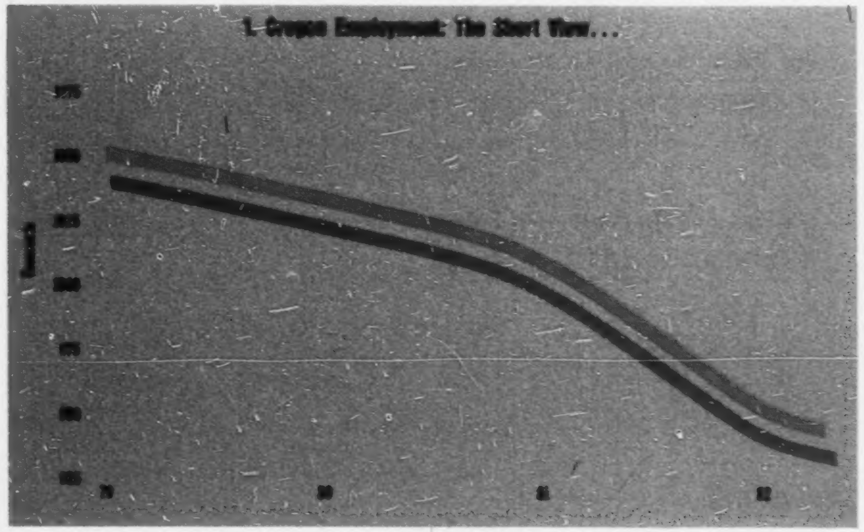
Do we in the Northwest really know how much we have?

The sureness of our growth stems, too, from those things we have made or for which we have cared. Our forests remain productive because we have made sure that they would. We are about to reap the benefits of our concern for the future. Despite the recession and increasing imports of lumber from Canada, the Northwest's share of the lumber market has remained steady. The current competitive advantages of Canada and the South, which have hurt the Pacific Northwest, will be blunted in the 1990s and beyond as the Northwest's vast stands of second-growth timber reach maturity. Future log supplies in Canada and the South are much more uncertain. The South has done about all the damage to the timber industry in the West that it's going to do.

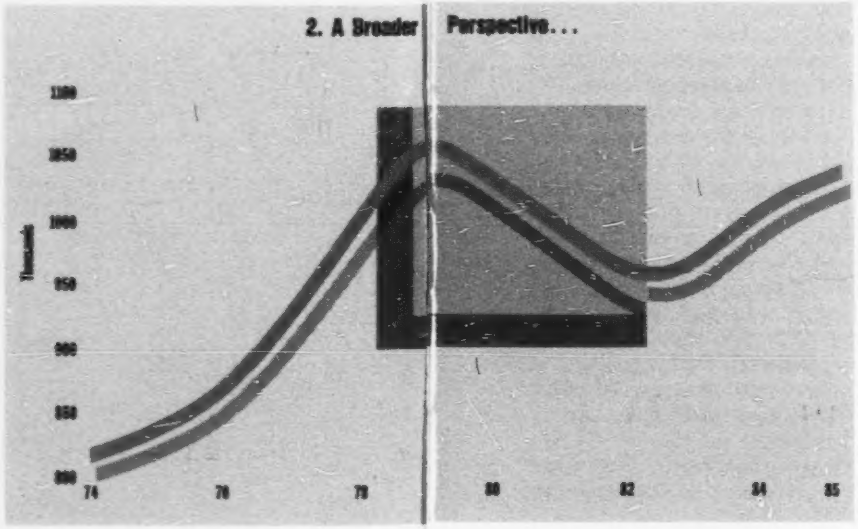
We have also been careful to protect our environment, which provides a highly valued quality of life; this investment, too, is yielding returns. I'm not limiting this to spotted owls, snowy plovers, and heron rookeries. I'm talking also about access to recreation, entertainment, and culture—not just for a moneyed elite but for an entire population; a lower chance of getting mugged or raped; and an environment that is physically and spiritually neither toxic nor sterile. As household incomes and education increase, both households and firms demand a higher quality of life. At the same time, the number of states able to supply that quality of life is decreasing. One does not need a Ph.D. in economics to know what happens when demand increases and supply decreases.

Just as we have cared for the things we have been given, we have also invested in ourselves. Twenty or thirty years ago, when the differences in the quality of public works among the different regions of the country were small, this factor did not have much impact on the profitability of firms starting up and expanding or on firms deciding where to locate. During the last twenty years, however, the investment in public works has declined everywhere, especially in basic maintenance. Despite this disinvestment in the Northwest's public works, so marked in the past six years, our region still has highways, streets, sewers, and water systems that are better than most, and our schools are still enviable.

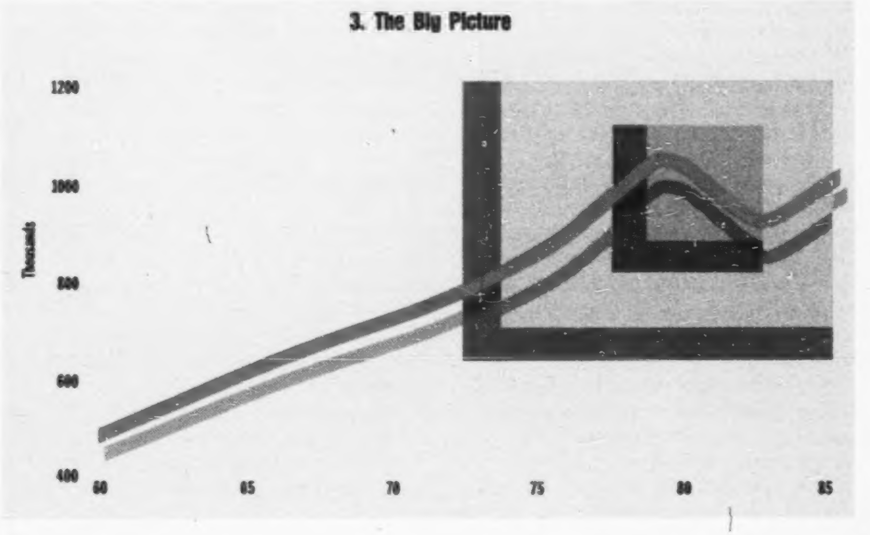
Education is a perfect example of the importance of public investment to the health of a region's economy and of the risks of disinvestment in it. Sometimes in cutting budgets, however, we cut our throats. Research universities generate new techniques, and schools train our workers, but all is not as obvious as it may seem. In a recent landmark study, Gerald Carlino and Edwin Mills found that public policies and investment seem to have no effect on employment



1. Oregon Employment: The Short View...



2. A Broader Perspective...



3. The Big Picture

growth except as these public policies strengthen education. And that effect is not trivial.

Washington ranks sixth in the nation in the percent of its population with a high school diploma, and Oregon seventh. Washington ranks seventh in the nation in the percent of its population with one or more years of college, and Oregon ninth. Washington ranks twelfth in the nation in the percent of its population with four or more years of college, and Oregon sixteenth. This is strength we should not waste.

These rankings can not begin to suggest what is most distinctive about the people of the Northwest. If our economic growth derives from what we are, how can we ignore that peculiar brand of Northwest populism—what else is one to call it?—that over the years has yielded cantankerously active citizens who expect government to listen to them and make sure that it does, developers who choose to live in what they build, and mavericks who work for the community not against it? Put alongside the graph charting the region's growth in employment the fact that these same years produced in Washington Microsoft, Jimi Hendrix, and Dan Evans; in Idaho Simplot, Albertson, and Cecil Andrus; and in Oregon Tektronix, Nike, and Senator Morse. Our strength, therefore, is undoubtedly found in ourselves.

The Way to Our Future

Our future should be bright, but how do we get there? There are decisions we must make and there are imperatives for economic policy and planning in all my apparent cheerleading. First, we must change our attitudes; in old Lear's phrase, we sweeten our imaginations. Before the 1980s we in the Northwest were strong and growing. We still are, and all of our economic planning must begin with recognition of this fact. Sometimes in the fury of the moment, it is difficult to see what is constant and to be trusted in one's situation, but remember the graphs. In the Northwest, what is constant is growth—not just the flurry of brush and alder that comes immediately after a burn, but the stand of young fir soon to be quietly mature. We have trees in our future.

Second, we must not let ourselves be bullied. Malaise makes one vulnerable, as a wimp attracts muggers. Manufacturer X dumps gallons of toxic materials, demands a waver of property taxes, and threatens to take his jobs elsewhere if he doesn't get what he wants. But what does such greed take from us when it goes? We can waste our strength, fritter it away, but it can't be stolen. No firm, no matter how large, can take our forests, our schools, or our people, even if it should leave in a huff.

Finally, we must use our resources to grow, giving creative people access to opportunity and to tools, nurturing smallness, diversity, and newness. In King County, a 1985 study by David Birch for the Seattle–King County Economic Development Council found that of all net new jobs created between 1980 and 1984, 73 percent were generated by firms with nineteen or fewer employees and 100 percent were generated by establishments in business for four years or less.

Birch's 1985 study found for King County what his 1979 study, *The Job Generation Process*, found for the United States: small firms—or firms that recently were small—generate over half the new jobs in our economy. But why are we so surprised? Like many a prophet, Birch simply reminds us of something we already know. Over two hundred years ago Adam Smith taught us that it is better to have twenty firms with 100 employees each than two firms with 1,000. And Smith, in contrast to Birch, helped us to understand just why that is so by making it clear that it is not the size of the firms that matters but their number. That's the real wealth of nations. When *smallness* means several and *largeness* means single, as they usually do, then smallness promotes competition and largeness stifles it. The remainder of Smith's lesson on the values of competition is gospel. Unfortunately, too many ignore his emphasis on the need for smallness and consequent diversity to make this good news happen.

Could there be a clearer indication of the direction in which our future lies? For awhile, *reindustrialization* was a fashionable term among those who were trying to see a way out of the desperate eighties. However, there is a problem in conceiving of the future as a process of reindustrialization. Inevitably, it binds us to the shape of the past. Even in the hands of someone as skilled as Lester Thurow, who considers this notion in his best-selling books *The Zero-Sum Society* and *The Zero-Sum Solution*, reindustrialization is, as its prefix suggests, a response to weakness, i.e., to an essentially negative characterization of where we are now in American industry.

In *The Second Industrial Divide: Possibilities for Prosperity*, Michael Piore and Charles Sabel offer a very different view of the future, one that emerges from a consideration of the strengths of America's industries rather than their weaknesses. They see us in the midst of a new industrial revolution and urge us not to try to recapture the past but to go on inventing a future in which "...the small company is the dynamic leading edge of the economy." They argue that this situation has already come to pass in sections of Germany, Italy, and, of course, Japan; the study of King County tells us it's happening in the Northwest as well.

Their analysis and our recent experience urge our adopting policies that will create an environment in which small firms thrive. This does not mean attacking our large firms; that wouldn't make sense economically even if we had the institutional and constitutional tools to do so. Rather, we must develop our entrepreneurial skills, open our capital markets, and encourage flexibility in our labor force, in our industrial relations, and in our industrial organizations. Other states around the country have done most of this work for us by identifying and testing workable policies.

For entrepreneurship, we can encourage—subsidize if necessary—incubator facilities in our cities, and we can expand the business programs at our universities and colleges into statewide entrepreneurial extension services. For capital, we can offer seed grants for accelerating the transfer of technology from the laboratory to commercial production, and we can offer incentives to long-term investors in small manufacturing firms. For labor, we can offer intensive retraining, not only in targeted skills but in the basic skills of expression and analysis.

We have but to add to what we can learn from other states our own impressive list of underlying strengths: location on the Pacific Rim; westward migration and the huge West Coast economy; an extensive educational system already in place; a quality of life that's coveted by most other states; a high-quality system of public works; research universities; vast forest and agricultural resources; and a populist tradition—either real or perceived—that nurtures creative activity. The challenge in the Northwest lies in recognizing our strengths and the necessity of policies that use them. Surely, we can find the intelligence and the will to meet this challenge. And when we do, we can build our economy of the future. ılı

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Economic Developments in the Pacific Northwest

Economic forecasting is always a hazardous enterprise. We were optimistic about the outlook in our last issue, and we still feel confident that the economic expansion will continue for many more months, fueled figuratively by a decline in petroleum prices and rapid monetary expansion. Interest rates have stopped falling, however, and the national unemployment rate has inched upwards, suggesting that a more cautious outlook is appropriate. Few signs of overstraining are apparent nationally; a recent survey of materials purchasers shows little evidence of capacity shortage. The dollar continues to fall relative to the yen and most European currencies. Net exports are poised for expansion in response to the strong dollar. Inflation has been virtually nonexistent in recent months. The fall in oil prices is so powerful that the national Consumer Price Index fell in February and March, masking upward movements of other prices.

Oil price decline

The most remarkable piece of economic news, at both the national and regional levels is the oil price decline. Brought about by a change of marketing strategy in Riyadh, oil production from the Middle East is up, and recent spot market prices have been around $13 to $15 a barrel in contrast to a price of $27 a barrel a year earlier. This nearly 50 percent drop in the spot market price is slowly beginning to percolate its way through the oil market as large volume contracts expire and new contracts are negotiated taking into account the spot market activity. Although consumers are not going to see a corresponding drop in retail prices of petroleum products, a drop of 20 percent seems likely for 1986 as compared to 1985.

Given the continued bickering at OPEC's meeting in April, there is little sign that crude oil contract prices will fully recover soon. Saudi Arabia seems adamant that it will not solely bear the burden of production cutbacks needed to drive the price back up. Since that oil-rich kingdom can earn as much or more by selling greater quantities of crude at a low price as it can by selling small quantities at a high price, its position indicates a fundamental change in the world oil market. Until high-cost producers are driven from the market and until reserves begin to shrink, consumers may be able to enjoy these lower oil prices, perhaps for a period of many months. The spot market price is likely to be unstable for some time, as inventories of oil vacillate in response to price expectations.

The good news

What does this mean for the Pacific Northwest? In the state of Washington alone, nearly two billion gallons of gasoline and diesel fuel were purchased in 1985. The Automobile Club of Washington reports a twenty cent drop in the price of unleaded regular gasoline between December 1985 and late March 1986. At the 1985 consumption level, a sustained twenty cent drop in the retail price would produce savings to consumers of $400 million per year. That is equivalent to a one-time increase in the real rate of growth of state personal income of one-half percent or more. How much of that spills over into increased demand for goods and services, and how much will be saved is uncertain—windfall income gains are often saved. Some increased consumption is likely, and this will stimulate the state economy.

Furthermore, the gasoline price reductions are only the first round of beneficial effects. Natural gas prices are likely to decline as Canadian and U.S. gas producers cut prices to stay competitive. Many petroleum-based consumer products should come down in price over the coming months also, and energy-intensive industries such as transportation will see falling costs and improved profits. Such industries may pass some of the benefit along to consumers in the form of lower prices, thereby keeping the rate of inflation low for several more months.

The bad news

No piece of good economic news comes without its tarnished silver lining, however. And the accompanying bad news is the secondary negative impact on Washington and Oregon of lower oil prices in Alaska. If the current spot market prices diffuse into contract prices, there is not much left over to cover variable costs of oil producers after North Slope oil is transported to the Puget Sound or Southern California refineries, and virtually nothing is left over to cover investments in new oil fields. The consequence of profitless production is a rapid drying up of exploration and development activity. Expectations of oil-related cutbacks have already begun to affect Alaska's economy.

Another immediate impact on Alaska stems from the state government's dependence on the oil industry. Alaska's state government, whose revenues come primarily from oil royalties, has projected a drop in total revenues from $3.2 billion in fiscal 1985 to $2.7 billion in 1986, $2.1 billion in 1987, and $1.6 billion in 1988. With state government cutbacks likely, reduced exploration activity, and reduced construction economic activity over much of the state, Alaska would seem to be facing a Texas-style recession.

Alaska's oil-related troubles affect the

The impact in Oregon and Washington

Pacific Northwest in several ways. Oil field development in the Arctic requires use of large oil field modules that are constructed at several sites in the Pacific Northwest, and then barged to Alaska during the summer months. Construction of these modules may be reduced to a trickle in the wake of the decline in oil prices. A total of two thousand jobs in Tacoma, eleven hundred in Anacortes, and two thousand more in Portland and Astoria are expected to be lost, according to one report.

More jobs will be lost due to reduced imports of consumer goods by Alaskans. Another report found that 80 percent of Alaska's consumer goods are imported via Puget Sound ports, and that two-thirds of the goods going through regional ports are manufactured within the Pacific Northwest. Alaska's inbound domestic trade fell 13 percent from the third to the fourth quarter of 1985, and further declines are likely in 1986.

It is difficult to construct a good estimate of the value of goods involved. Using the rough figures above and assuming that personal income in Alaska drops by $1 billion as a result of oil and construction industry layoffs, state government layoffs, and the indirect impacts of those layoffs, the negative impact on Washington businesses could be as much as 50 percent of the personal income drop, or about $500 million.

Pluses outweigh minuses

This estimate is very rough, at best an order of magnitude estimate; however, the direct benefit of oil price declines to consumers in Washington and Oregon should be greater than the negative indirect effects of the situation in Alaska. If the cutbacks in Alaska are delayed by a gradual phasing in of state government cutbacks, the negative impacts may be barely noticeable in broad aggregates as they will be accompanied by growth in other sectors of the Pacific Northwest economies.

Dollar continues to drop

The dollar has continued to fall in value relative to the yen and several European currencies. The changing value of the dollar is likely to shift the composition of international trade through the Pacific Northwest ports. Imports have exceeded exports on a value basis in the Portland and Seattle Customs Districts for the past two years (see annual indicators section). Our ports may see more export traffic as a consequence of the dollar's fall, but a reduction in imports will offset that. Since much of our region's waterborne exports are agricultural commodities for which there are soft world markets, the import decline could easily exceed the export growth in the ports. However, Pacific Northwest manufacturers and forest owners may see more sales abroad, resulting in gains for products originating within our regional economy.

Recent reports are consistent with these conclusions. The ports in Seattle and Tacoma, as well as some local firms, report that exports are growing. Seafood processors and forest products firms are among those reporting expanding exports. However, agricultural product exports have not responded to the more favorable exchange rates; many agricultural commodities compete with exports from countries whose currency is tied to the U.S. dollar. Little improvement is to be expected in these commodities.

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Tourism should be strong this year. After years of conscientious energy saving, consumers are receiving a signal from the market that boats, campers, trailers and automobiles are free to roam for now. Add to that the vacation-at-home response to terrorism abroad, bargain airfares, and EXPO 86 in Canada, and a record-breaking tourist business is likely for the Pacific Northwest states and Alaska.

EXPO will not be the only event drawing tourists during the coming summer. Seattle's perennial attraction, the Opera's production of Wagner's Ring cycle, is expected to draw a number of affluent visitors who will leave behind upwards of $8 million spent on accommodations, food, the opera and other entertainment, and miscellaneous purchases. In Ashland, the Oregon Shakespeare Festival will be attracting record numbers of visitors as well.

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Many of the Pacific Northwest's high-tech firms have made significant accomplishments in the last few months, and we pause to recognize some of those achievements. Boeing seems determined to top a spectacular sales year in 1985 with one equally impressive this year. Its first quarter sales and profits are better than the first quarter of 1985. Microsoft put out its first public stock offering in March 1986; the price rose immediately and has since stayed up near the level of the first day's trading. This success is inspiring other new high-tech firms to go public. Floating Point Systems has announced a new parallel processor computer that surpasses the mammoth Cray computer line in size and speed of processing. Another Oregon computer maker, Sequent, announced a large sale to Siemens of West Germany, proving that American firms can still compete in the international markets for high-tech products.

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Slack markets for the region's traditional premier agricultural commodity have caused a surprising change in relative value of various agricultural commodities. In Idaho, the value of livestock production has traditionally topped that of wheat. Oregon has always had a very diverse agricultural economy, and it is no surprise that wheat is not the top-value crop there. But for wheat to be topped by milk in Washington, as it was in 1985, is a big change. Wheat production has been dropping for the past three years, from 172 million bushels in 1983 to 128 million bushels in 1985. Large worldwide surpluses have resulted in price declines from $3.69 per bushel in 1983 to $3.40 in 1985. The value of the Washington wheat crop fell from $637 million in 1983 to $436 million in 1985. Milk production, on the other hand, has increased from 3.5 million pounds in 1983 and 1984 to 3.7 million pounds in 1985. The value of milk production fell from $476 million in 1983 to $466 million in 1984, and then rose to $476 million in 1985. Relatively small price and quantity fluctuations for milk stand in contrast to the big drop in the price and quantity of the wheat crop, with the result that wheat is displaced by milk as the highest value commodity.

The 1985 Farm Bill contained a dairy herd buyout program that has resulted in many herds being sent to the slaughterhouses to slow dairy product production. However, one also hears of new dairy operations starting up to replace the buyouts. Thus, the net change in 1986 could be up or down from 1985 levels. The dominance of milk over wheat crop values should continue in Washington for some time pending a slow process of disposing of the surplus wheat in the United States and abroad. Only a dramatic change such as a significant wheat crop failure in the Soviet Union due to the nuclear accident at Chernobyl could eliminate the worldwide wheat surplus quickly.

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As we enter our second year of publication, we intend to repeat the cycle of indicators we established in our first year, with some modifications. The July issue contains selected annual statistics by which readers can monitor broad sectors of the

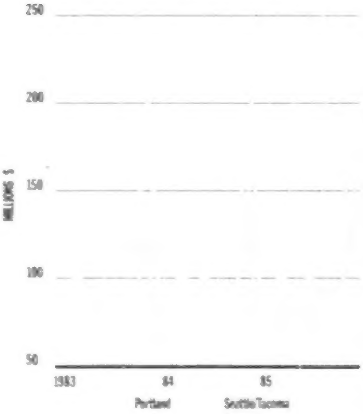
Pacific Northwest economy. The October issue will contain not only agricultural data as it did last year, but will also feature some data on the forest products industry. The January issue will continue to feature personal income data, and the April issue will report employment, hours, and earnings data.

This year's annual indicators include two innovations. First, we are dropping a building index; in lieu of the index we have added the number of housing units authorized, a leading indicator of construction activity. The trend of housing units authorized was up in 1985, indicating better times to come (and the value of adding this indicator to our annual indicators collection).

Second, we became aware of the monthly department store sales data collected by the U.S. Bureau of the Census for Portland, Seattle, and Tacoma. We have included annual department store sales for these three cities in the indicators section of this issue.

We were so struck by the monthly seasonal fluctuations in department store sales that we thought it worth calling to our readers' attention. Those involved in the retail trade industry are no doubt very aware of the Christmas phenomenon, but if you have not had to bet your business's profits on a single month's sales, consider the data in Figure 1. Sales in December tend to be twice as large as in any other month. With sales starting out from the doldrums in the first quarter, a crescendo builds gradually through the year, reaching a peak at the Christmas season.

Figure 1: Department Store Sales



Worth Reading

by Myron B. Katz, Assistant to the Administrator, Bonneville Power Administration. Copies of this paper are available from the author at BPA, P.O. Box 3621, Portland, OR 97208, 20 pp., no cost.

This critical appraisal of regional economic development programs was one of the most interesting and stimulating papers presented at the Pacific Northwest Regional Economic Conference in May. Katz concludes that regional economic development efforts have been a failure and "... have not contributed in any enduring way to improvement in per capita income." This is an intriguing thesis from an author who, in his capacity as economist and assistant to the administrator for BPA, has played a significant role in influencing the regional economic development of the Pacific Northwest. (The views expressed therein are those of the author; they do not necessarily represent the views of BPA.)

The Classical Model. According to Katz, a simple explanation of economic processes relegates regional economic development efforts to the trash-bin. The underlying theory is the classical model of regional economic change. In simple language the idea is that individuals, if free to move their labor and capital, will move from regions in which their incomes are less to those in which their earnings will be greater. Unemployed workers will migrate to regions where employment opportunities are abundant. Capital will move from areas of low return to regions of higher profitability. Regional wage and income differentials will become narrowed by market processes until the differentials are eliminated.

This is basic market economics. It is a powerful theory rooted in individual motivation. It explains much of the migration that takes place within countries and between nations. According to the classic factor-price-equilization theory, no region of the country can, through economic development efforts, secure higher returns than can be obtained elsewhere. Why should public authorities spin their wheels trying to raise levels of regional income, or job opportunities for the unemployed, if individuals, left to their own devices, will ensure the same result? Katz concludes that regional economic development programs are a waste of resources. Such programs are a "sinister" plot of vested interests, or the product of mistaken innocence by those naive enough to believe that intelligent policy can somehow alter economic circumstances. His ascerbic style is discomforting, but effective in getting the reader's attention.

The Case for Economic Development. Before trying to assess the positive aspects of regional economic development, let's define the term. It is a set of community activities pursued within a region to influence the location, timing, and composition of economic activity for the purpose of enhancing the social welfare of its inhabitants. As a proxy measure of social well-being, one may agree with Katz that raising per capita real income is a primary objective and discard the simple notion of "bigger is better." (Some would also include the broadening of market opportunities so that our children may pursue their professions nearby; there is obviously more to social well-being than per capita income.)

Regional economic development activity is undertaken by a variety of government agencies, industry commissions, business associations, and other community groups. Katz opposes, or is at least skeptical of, the artifices used to peddle economic development. Although promotional activity and information services are the most visible aspects of regional economic development activity, the most critical phases of such efforts are found in the analysis and planning for community development. This involves identifying opportunities, estimating impacts, formulating policy options, and coming to a consensus. Potential investors and employers are interested in the present condition and future plans for infrastructure development such as roads and water supply, and other factors affecting cost and marketability of their products. They want information about the skills and availability of labor, living conditions, and the like. Marketing for regional economic development involves more than a "cents off" sale or other promotional gimmicks of transient value, even though these may be attention getters.

The underlying value of regional economic development efforts resides in the provision of information and the reduction of transfer costs. New or expanding enterprises must locate somewhere, and these locational decisions involve search costs. Insofar as regional economic development activity leads to more rational location of capital and labor, it reduces transfer costs. If regional development programs reduce uncertainty and help channel resources toward their most productive uses, then they have contributed toward a more productive economy. Katz knows this, of course, but takes a skeptic's (and laissez-faire) point of view.

Although the classic factor-price-equilization theory says returns to agents of production in different regions will converge in the long-run, in the interim some regions offer better returns than others as measured by differences in per capita real income. Just how much regional economic development activity, or the lack thereof, has contributed to these differentials is impossible to say. The evidence that per capita incomes among regions of the United States are slowly converging is as much an argument that regional development efforts make an enduring difference as the reverse. Perhaps Katz is right in the long-run, but few of our readers need the reminder that in the long-run we are all dead.

The Pacific Northwest Executive Stock Index

A new quarterly economic series, the Pacific Northwest Executive Stock Index, makes its debut in this issue of the *Pacific Northwest Executive*. Used with other economic and financial data series, this index may be an aid in determining the direction of the regional economy and the differences between portfolios of national and local stocks.

A brief description of the methodology used to construct the index and a list of the firms that are included follows. Future issues of the *Pacific Northwest Executive* will provide quarterly updates of the index.

Methodology. The Pacific Northwest Executive Stock Index is constructed using a methodology similar to that of the Standard and Poors (S&P) stock indexes. Data are collected on the weekly closing stock prices for sixty-five firms headquartered in Washington, Oregon, and Idaho, and then used to construct an index of the prices of the portfolio, weighted by the number of shares outstanding. The price information is updated on a weekly basis, whereas the share data are updated monthly. The firms included in the sample all have at least one million shares outstanding, a market share price of at least $2, and less than a 5 percent spread between bid and asked price. The base period for the index is January 3, 1986. The index on that date was set equal to the value of the S&P 500 index on January 3, in order to enhance comparability with this national measure.

Types of Indexes. Indexes were prepared for the entire group of stocks and for key groups of stocks by size and economic sector. The composite Pacific Northwest Executive Stock Index highlights the changes in stock prices for the group as a whole. The indexes prepared for the manufacturing, high-technology, utilities, and financial/retail/service sectors provide the reader with information on the behavior of these categories of stocks. In addition, indexes for the smallest firms (price times shares outstanding under $50 million) and the largest firms (price times shares outstanding over $1 billion) in the group are also provided.

Recent Trends. As shown in Figure 1, stock values in the Pacific Northwest have closely followed the national stock market's bullish trend between November 1985 and mid-March 1986, leveling off thereafter. During the first quarter of 1986, manufacturing firms and the financial/retail/service sectors rose in value the most. The value of technology stocks actually declined during this period. The stock prices of the small firms in the sample appreciated at a higher rate than that of the large firms during the first three months of 1986.

Figure 1: S&P 500 and the PNWE Index

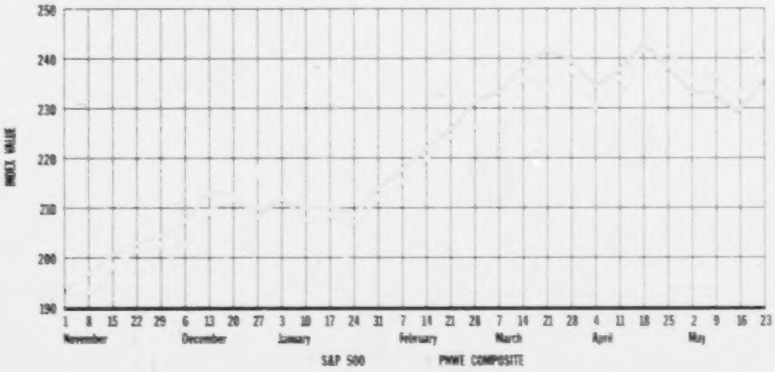


Figure 2: Percent Change of Indexes
January 3, 1986 – March 28, 1986

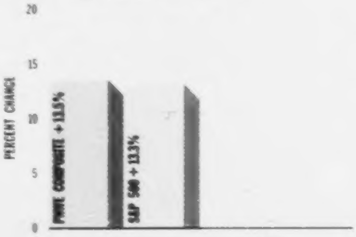


Figure 3: Percent Change by Sector
January 3, 1986 – March 28, 1986

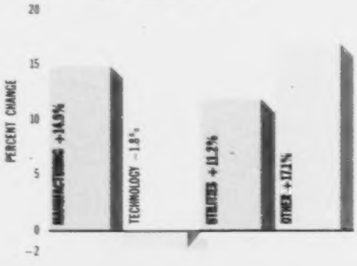
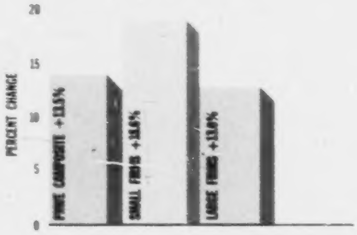


Figure 4: Percent Change by Firm Size
January 3, 1986 – March 28, 1986



The Pacific Northwest 65: Firms Included in the Pacific Northwest Executive Stock Index

Manufacturing

The Boeing Co. ■
Boise Cascade Corp. ■
Bohemia, Inc.
EMF Corp. ▲
Hecla Mining Co.
Linden, Inc. ▲
Longview Fibre Co.
Louisiana-Pacific Corp.
Morrison Knudsen Corp.
NIKE, Inc.
PACCAR, Inc.
Penwest ▲
Pope & Talbot, Inc.
Precision Castparts Corp.
Timberland Industries ▲
Trus Joist Corp.
Univar Corp.
Weyerhaeuser Co. ■
Willamette Industries, Inc.

Utilities

Cascade Natural Gas Corp.
Idaho Power Co.
Northwest Natural Gas Co.
Pacificorp
Pacific Telecom, Inc.
Portland General Electric ■
Puget Sound Power & Light Co. ■
Washington Energy Co.
Washington Water Power Co.

Retail

Albertson's, Inc. ■
GranTree Corp. ▲
Nordstrom, Inc. ■
Pacific Gamble Robinson
Pay 'N Pak Stores, Inc.
Weisfield's Jewelers ▲

Finance

First Farwest ▲
Moore Financial
Old National Bank Corp. ▲
Pacwest Bancorp ▲
Peoples Bank
Puget Sound Bancorp
Rainier Bancorporation
Safeco Corp. ■
Savings Bank of Puget Sound
U.S. Bancorp

Technology

Data I/O Corp.
Electro Scientific Industries, Inc.
Floating Point Systems, Inc.
Flow Systems, Inc.
John Fluke Mfg. Co., Inc.
ISC Systems
Immunex
Integrated Circuits, Inc. ▲
Intermec
Key Tronic Corp.
Mentor Graphics Corp.
Microsoft Corp.
Tektronix ■

Other

Airborne Freight Corp.
Alaska Airlines, Inc.
Burlington Northern Inc. ■
Coeur d'Alene Mines Corp.
International King's Table, Inc.
Northern Air Freight, Inc. ▲
Sea Galley Stores, Inc. ▲
Thousand Trails, Inc.

■ Large company (over $1 billion in aggregate stock value)
▲ Small company (under $50 million in aggregate stock value)

The Port Business in the Pacific Northwest

Ports are big business in the Pacific Northwest, and in this article we examine the characteristics of our region's three largest ports: Portland, Seattle, and Tacoma. These ports are frequently in the news because of their high-stake dealings with shipping lines, and recent discussions of the pros and cons of a regional port authority for Puget Sound. The markets these ports compete in, and their growth prospects, have a bearing on port strategies and the return on taxpayer investments in their operations.

The West Coast Port Industry

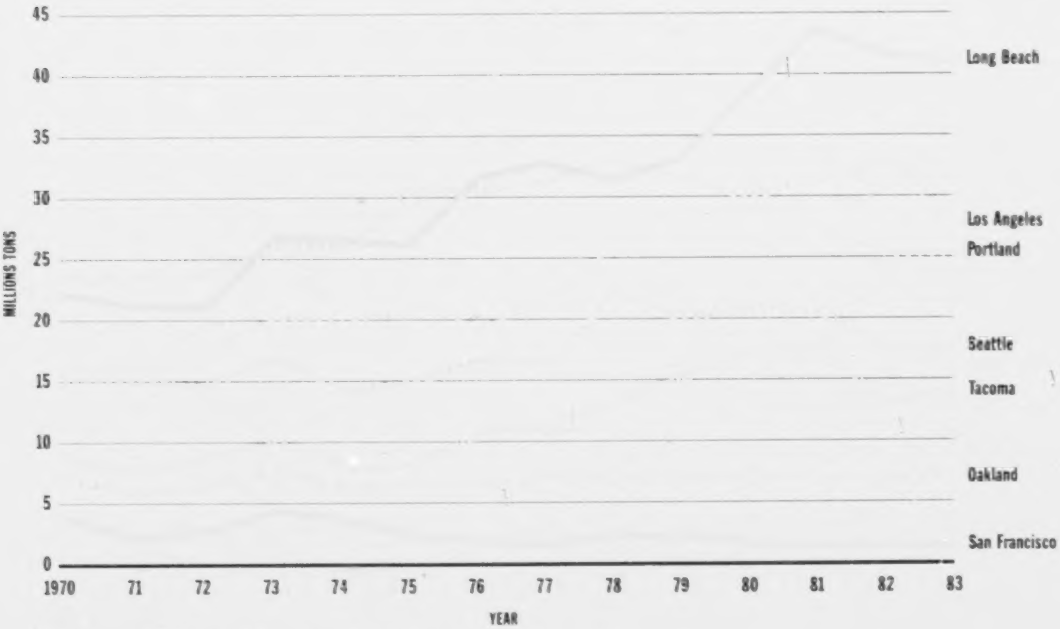
The Pacific Northwest's ports are part of a growing industry involved in building up Pacific Rim trade relationships. In 1985 trade with Pacific Rim countries surpassed trade across the Atlantic for the first time, culminating a long-term expansion of Pacific Rim trade. Several West Coast ports have benefited from this expansion.

Figure 1 shows total tonnage of seven West Coast ports from 1970 to 1983. Long Beach surpassed its closest rival and neighboring port of Los Angeles in the early 1970s, grew impressively thereafter, and remains the largest port on the West Coast. Portland was almost tied with Seattle for third place in 1970, but over the years Portland increased its total tonnage more rapidly than Seattle. While the total tonnage of fourth-ranking Seattle has grown slightly, that in Tacoma has grown more rapidly and is approaching the level of Seattle. Tonnage of the Bay Area ports of Oakland and San Francisco remained stagnant during the 1970–83 period, with Oakland's fairly constant, and San Francisco's dropping considerably from 1973 to 1976 and stabilizing thereafter.

Due to the growth experienced by several of these ports, and the overall shift of the growth of trade toward the Pacific Rim, these West Coast ports have increased their share of the trade handled by all U.S. coastal ports (see Figure 2). Exports have grown the most, especially at Long Beach, Portland, and Tacoma, explaining most of the growth in market share of the West Coast ports over the 1970–83 period. Domestic trade and imports have been subject to up and down cycles, ending the period about where they started. Part of Long Beach's domestic trade growth was due to crude oil brought in from Alaska. This trade may decline from 1986 on because of lower oil prices. The data in Figure 2 end in 1983, and the last two years have seen a dramatic expansion of imports nationally. Growth in tonnage in 1984 and 1985 was probably on the import side for all of these ports.

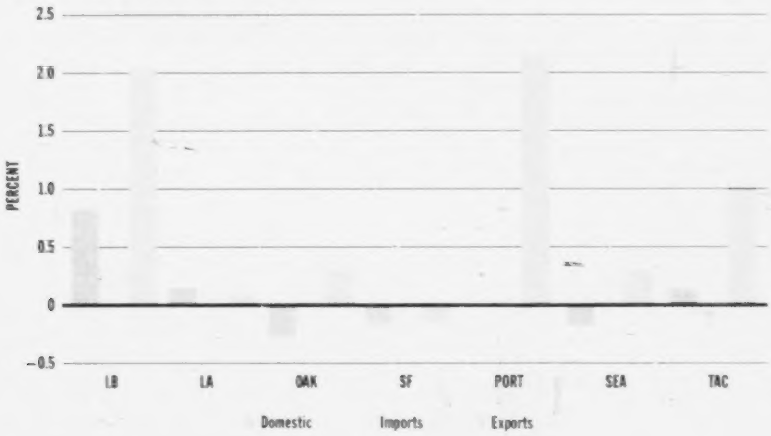
The increased market share of West Coast ports reflects not just the expansion of

Figure 1: West Coast Port Tonnage



Source: Dept. of the Army, Corps of Engineers, *Waterborne Commerce of the United States*

Figure 2: Percent Change in Market Share of West Coast Ports
1970 to 1983, based on tonnage



Source: Dept. of the Army, Corps of Engineers, *Waterborne Commerce of the United States*

Pacific Rim markets, but the cost advantages in moving goods overland by rail to or from a West Coast port versus all-water routes to or from Midwestern and Eastern markets and manufacturing centers. While rail distances from New York or Chicago to any major West Coast port are virtually indistinguishable, using the rail/ship combination can save seven to ten days of shipping time as compared with moving goods through the Panama Canal. This time advantage reduces the overall costs of getting foreign exports or imports to their markets.

The Northwestern ports share an advantage over their rivals in Southern California —a one-day time savings for the ocean leg of the route to or from Asian ports. Rail distance from Chicago to any West Coast port varies by only 120 miles. Thus, any rail cost or rail transit time advantage enjoyed by a particular port can be competed away by other ports investing in more efficient intermodal facilities to speed movement of goods from ship to train and vice versa, or in unit train services to speed up overland movements. The sea time advantage of one day is therefore an important competitive factor that keeps our three major Pacific Northwest ports in the running vis-a-vis the two Southern California giants. It is the only advantage that can not be competed away.

Similarily, Southern California ports have an advantage the Pacific Northwest can not emulate—the size of the consumer market within Southern California. With twelve million people living in Southern California, many ships will call in Los Angeles or Long Beach to deliver imported goods or to pick up Southern California exports to deliver overseas. Since they are already in port, these ships may unload cargo destined for Midwestern or Eastern markets to avoid having to make another stop on the West Coast.

Table 1: Characteristics of PNW Ports

	PORTLAND [1]	SEATTLE [2]	TACOMA [2]
Taxpayer equity in marine terminals (millions $)	202	206	215
Marine terminal operating revenue (millions $)	43	42	29
Foreign cargo handled (millions metric tons)	8.4	11.0	8.2

[1] Fiscal year ending June 30, 1984
[2] Fiscal year ending December 31, 1984

SOURCES: Ports of Portland, Seattle, and Tacoma

Table 2: Container Units Handled by West Coast Ports
in TEUs

	1984	1985
Long Beach	NA	1.141.466
Los Angeles	801.765	1.037.092
Oakland	915.871	NA
San Francisco	65.000	105.000
Portland	122.919	111.422
Seattle	1.052.000	845.000
Tacoma	150.300	505.000

The Pacific Northwest's Big Three

The Pacific Northwest's three biggest ports are very similar in terms of taxpayer equity in marine terminals, marine operating revenues, and total foreign cargo tonnage in 1984 (see Table 1). A closer examination of each port, however, reveals some interesting differences.

■ PORT OF PORTLAND

The Port of Portland operates three Portland area airports as well as marine terminals on the Columbia and Willamette rivers in the Portland metropolitan area. These terminals handle breakbulk and heavy-lift cargo, forest products, autos, grain, and containers. Rail and truck service is provided at each terminal. This port is a major handler of the Pacific Northwest's wheat exports. In addition, manufacturers throughout Oregon, southern and eastern Washington, and Idaho use the Port of Portland to export their goods.

■ PORT OF SEATTLE

The Port of Seattle operates Seattle–Tacoma International Airport and the Shilshole Marina, as well as commercial marine terminals along the Duwamish River and the Elliott Bay waterfront in downtown Seattle. Included in these facilities are a large grain elevator, six terminals with a total of twenty-one container cranes, an auto-importing terminal, and traditional breakbulk cargo facilities. Services are provided by over a hundred steamship operators and agents, thirty barge and tug operators, and two transcontinental railroads. About nine thousand ships visit the Seattle harbor each year. The Port of Seattle has emphasized the movement of high-value, containerized cargo, making the total value of shipments through this port high compared to the total tons moved.

■ PORT OF TACOMA

The Port of Tacoma occupies the Commencement Bay waterfront in Tacoma. Its facilities include marine terminals with a wide range of general and specialized cargo facilities, four container cranes, and two grain elevators. A new intermodal facility speeds transfers of containers to rail cars. Over twenty shipping lines regularly visit the Port of Tacoma, including Sea-Land, which moved its Puget Sound terminal operations from Seattle to Tacoma in 1985, boosting Tacoma into the big leagues among West Coast container handlers (see Table 2). This move will tend to raise the value of cargo shipped through Tacoma relative to tonnage, correspondingly reducing the total value of cargo shipped through Seattle.

One cloud over the Port of Tacoma is a dispute with the Puyallap Indian Nation over the ownership of much of the port's land. The tribe claims ownership under treaties negotiated with the U.S. government in the nineteenth century. Litigation is ongoing; early in 1986, the tribe rejected a proposed settlement with the Port valued at $146 million. Until the ownership of Port lands is resolved, the financial future of the Port is somewhat uncertain.

Port Cargos in 1984

Portland's tonnage is largely made up of grain and other agricultural commodities shipped down the Columbia River and loaded onto ships for export in the Port of Portland. For example, nearly 70 percent of the total tonnage passing through the Port of Portland in 1984 was grain bound for export markets. The tonnage passing through Seattle is more evenly balanced between imports and exports, with minerals and ores, automobiles, and metal products being major import cargos, and agricultural and forest products accounting for the bulk of the exports. Tacoma's trade is tipped in favor of imports; 72 percent of total tonnage in 1984 was composed of imports, with minerals and ores accounting for nearly 60 percent of the import tonnage.

When the value of the cargos is compared, the contrasts between ports are more striking. In 1984 Seattle outranked the other two ports by a factor of four with total value of cargos exceeding $20 billion. These high-value imports included non-electrical machinery, apparel, automobiles, and other miscellaneous cargos. Automobiles dominate the Port of Portland's imports; in 1984, $2.1 billion of Portland's imports were autos, 63 percent of total imports. Tacoma's imports are more diverse; the 1984 total of nearly $3.4 billion was split among automobiles (23 percent), communication equipment (21 percent), and other goods (56 percent).

In 1985 important changes occurred throughout the region. Portland suffered a decline in container traffic, especially on the import side, while soft grain markets constrained the export business. Seattle saw the departure of the Sea-Land operation for its new quarters in the Port of Tacoma. This loss was partially offset by the arrival of several new, but smaller, steamship companies; however, a net drop of about 200,000 TEUs of container traffic still occurred. Tacoma welcomed Sea-Land and other new port tenants, achieving a threefold increase in container traffic from 150,000 to 505,000 TEUs.

Competitive Conditions

Agricultural commodities dominate the region's exports, and all three of the large Pacific Northwest ports compete for these exports. Portland has the advantage of the Columbia River; it is cheaper to ship grain from the Inland Empire by barge than rail. Seattle and Tacoma have grain elevators, but these facilities are used for exporting corn brought in by rail from the Midwest.

When it comes to exports of manufactured goods, Seattle and Tacoma have a natural originating area in the surrounding metropolis. The costs of shipping over the Cascade Mountains mean that many manufactured goods from the interior of Washington, Idaho, and much of Oregon tend to go through the Port of Portland if ship transportation is required to move it to foreign markets.

On the import side, all three Pacific Northwest ports compete with California and East Coast ports for imported goods on their way to markets in the Midwest and Eastern seaboard. Most of this traffic moves in containers, making container traffic an important denominator of the competition with Southern California ports. Long Beach and Los Angeles are the leaders in this market (see Table 2). These two ports handle a great deal of containerized cargo that originates in Southern California, or that consists of imports headed for Southern California consumers. Seattle and then Tacoma follow on the heels of Los Angeles and Long Beach, but most of the container traffic handled in these ports is in transit to or from the Midwest, the East Coast, or Canada (see Figure 3 on page 14). The Bay Area ports lag far behind in these transcontinental shipments, and are not at present major factors in the competitive battle with Southern California.

Because the Pacific Northwest ports lack a very large consumer market with the region, their container import trade is somewhat fragile. The ships are going to call in Southern California anyway due to the large market there. But they only call in the Puget Sound if there is an economic advantage for goods on their way to the Midwest or East Coast.

The advantage of the Pacific Northwest being a day closer to Asia by ship is offset by overland shipping time and costs to move goods to the Midwest and East Coast. According to a Port of Seattle study, 36 percent of all trans-Pacific container imports go through the Panama Canal or around Cape Horn, thereby avoiding West Coast ports altogether. Costs are lower for this all-water route to the East Coast, but shipping time is longer. Heavier and lower value cargoes tend to go this all-water route. The Pacific Northwest ports achieved a market share of about 19 percent of the total trans-Pacific container import trade in 1984, and a 30 percent share of all container imports unloaded at West Coast ports.

The proximity advantage of being a day closer to Tokyo or Singapore can be easily lost by inefficient port or rail operations. Hence, much of the competitive battle with the Southern California ports has focused on the efficiency of these operations. Containerization of cargo and upgrading of port facilities to handle containers efficiently have been a major part of the competition since the 1960s. Tacoma's recent investment in container facilities is part of this continual struggle for efficient loading and unloading of ships to minimize the time they spend in port.

Rail efficiency is a more recent focus of the battle for comparative advantage. Seattle and Tacoma are now emphasizing double-decker unit train service to Chicago for containers. Tacoma, Long Beach/Los Angeles, and San Francisco have also im-

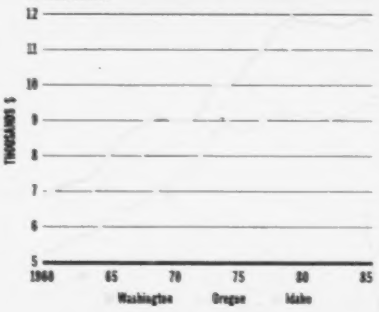
(continued on page 14)

Ship cargos come with three types of packaging:

- ***Containers* are steel boxes forty or sixty feet long and designed to be hauled on truck beds, rail cars, or ships. They can be packed in any manner the shipper wishes and come either with or without self-contained refrigeration equipment. TEU stands for Twenty-foot Equivalent Unit, a standard way of describing containers that come in several sizes.**
- ***Bulk* cargo consists of commodities such as wheat or petroleum that are simply poured into large holds in a ship at the loading end, and pumped out at the receiving port.**
- ***Breakbulk* and *neobulk* cargos fall in between the two extremes of the standardized packages provided by containers, and the loose, unpackaged form of bulk cargos. Examples of breakbulk cargos include bagged lentils and large wooden crates containing industrial equipment. Neobulk cargo examples include rolled steel pieces and automobiles.**

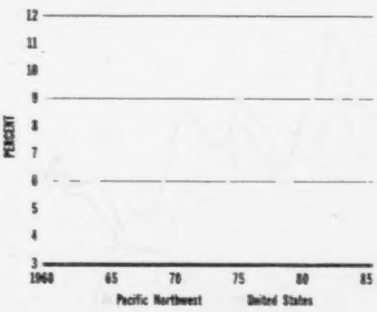
Pacific Northwest Annual Economic Indicators

REAL PERSONAL INCOME PER CAPITA
In 1982 dollars



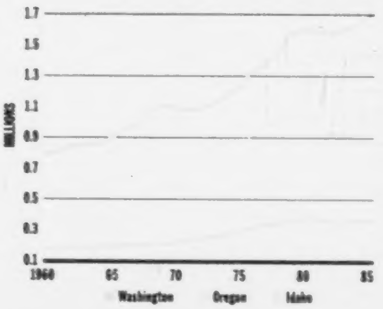
	POPULATION[A1] *In thousands*			**PERSONAL INCOME**[B] *In millions $*			**FARM INCOME**[B] *In millions $*		
YEAR	WA	OR	ID	WA	OR	ID	WA	OR	ID
1960	2.853	1.769	667	6.772	3.930	1.236	268	185	159
1965	2.867	1.937	686	8.867	5.329	1.679	288	186	238
1970	3.409	2.091	713	13.827	7.795	2.378	356	227	274
1975	3.621	2.330	832	22.484	13.305	4.360	866	390	434
1980	4.132	2.633	944	42.510	24.580	7.673	858	540	518
1981	4.235	2.669	964	47.600	26.586	8.623	1.009	542	605
1982	4.276	2.668	977	49.814	27.130	8.845	1.004	496	469
1983	4.302	2.658	987	52.031	28.536	9.308	1.081	488	466
1984	4.349	2.676	999	55.472	31.056	10.153	1.100	566	554
1985	4.409	2.687	1.005	58.507	32.667	10.653	1.085	483	492

UNEMPLOYMENT RATE



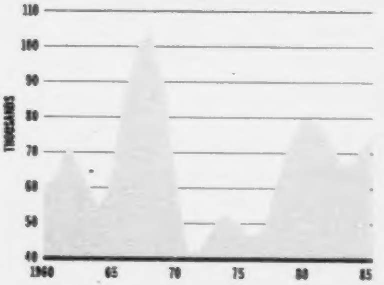
	IMPLICIT[B] **PRICE DEFLATOR** *for personal consumption 1982 = 100*	**UNEMPLOYMENT**[F] **RATE** *percent of labor force*			**TOTAL**[F] **EMPLOYMENT** *in thousands*		
YEAR		WA	OR	ID	WA	OR	ID
1960	34.9	6.4	4.9	6.0	1.020	682	264
1965	37.5	5.4	4.6	4.8	1.107	776	267
1970	44.9	9.2	7.1	5.8	1.285	803	281
1975	60.8	9.5	10.6	7.3	1.412	929	324
1980	86.9	7.9	8.3	7.9	1.828	1.186	396
1981	94.4	9.5	9.9	7.6	1.806	1.205	397
1982	100.0	12.1	11.5	9.8	1.779	1.171	401
1983	103.7	11.2	10.8	9.8	1.838	1.196	413
1984	107.0	9.5	9.4	7.2	1.859	1.210	430
1985	111.6	8.1	8.8	7.9	1.933	1.210	434

NON-AGRICULTURAL WAGE & SALARY EMPLOYMENT



	NON-AGRICULTURAL[F] **WAGE & SALARY EMPLOYMENT** *in thousands*			**AEROSPACE**[F] **EMPLOYMENT** *in thousands*	**LUMBER AND WOOD**[F] **PRODUCTS EMPLOYMENT** *in thousands*		**PAPER**[F] **EMPLOYMENT** *in thousands*
YEAR	WA	OR	ID	WA	WA	OR	WA
1960	812.6	509.2	155.2	57.8	44.4	71.9	18.0
1965	896.6	607.4	177.6	57.0	46.9	74.2	19.8
1970	1.080.0	709.2	209.3	61.5	42.2	66.8	19.8
1975	1.225.7	837.4	273.0	50.4	47.2	69.6	16.4
1980	1.608.3	1.044.6	330.9	79.6	47.0	69.5	17.6
1981	1.612.0	1.018.4	327.8	79.0	44.4	63.8	17.2
1982	1.569.2	960.8	312.2	75.0	39.0	55.6	16.2
1983	1.586.1	966.7	317.9	65.0	42.2	62.6	15.8
1984	1.659.9	1.004.0	325.9	66.6	41.3	66.0	16.2
1985	1.707.6	1.029.0	338.3	76.0	37.9	63.5	16.4

AEROSPACE EMPLOYMENT IN WASHINGTON



	CONSTRUCTION EMPLOYMENT[F] *in thousands*			**MANUFACTURING EMPLOYMENT**[F] *in thousands*		
YEAR	WA	OR	ID	WA	OR	ID
1960	44.6	26.1	9.6	216.6	144.4	28.9
1965	46.4	33.4	11.4	227.0	158.2	33.3
1970	53.3	29.5	10.9	239.4	172.3	40.4
1975	59.5	35.3	16.1	244.0	182.1	47.8
1980	92.6	46.5	15.8	308.7	215.1	53.3
1981	90.3	37.5	16.7	303.3	202.7	52.7
1982	75.6	28.9	13.8	289.9	185.7	47.8
1983	74.2	27.0	13.1	278.4	188.8	50.3
1984	79.6	29.9	13.2	288.1	198.7	54.1
1985	79.9	32.1	15.6	294.1	199.9	55.2

CONSTRUCTION CONTRACTS[C]
In millions $

YEAR	WA	OR	ID
1960	632.3	364.6	115.4
1965	1,006.7	585.7	186.8
1970	1,478.2	634.3	197.4
1975	2,019.3	1,035.9	398.6
1980	4,795.1	1,926.1	634.5
1981	3,587.9	2,038.2	721.9
1982	3,394.8	1,379.9	508.4
1983	3,667.8	1,414.7	544.8
1984	3,748.1	1,744.7	617.6
1985	4,449.1	1,654.1	777.1

NEW HOUSING UNITS[A] AUTHORIZED
In numbers of permits

YEAR	WA	OR	ID
1960	NA	NA	NA
1965	20,131	15,610	1,846
1970	28,262	16,900	3,565
1975	35,209	20,091	3,066
1980	33,375	19,480	5,795
1981	24,558	12,887	3,382
1982	17,891	7,720	2,536
1983	27,481	8,694	4,225
1984	30,400	8,055	4,308
1985	34,316	11,977	4,372

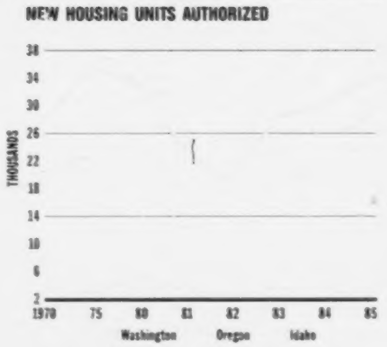
AVERAGE[D2] LUMBER PRICE
1000 board ft.

YEAR	PNW
1960	$75.01
1965	76.09
1970	91.08
1975	154.63
1980	267.59
1981	232.49
1982	198.43
1983	228.88
1984	215.01
1985	214.49

PLYWOOD[E3] PRODUCTION
In million board ft.

YEAR	WA & OR
1960	6,535
1965	9,720
1970	8,663
1975	7,722
1980	6,786
1981	6,215
1982	5,700
1983	8,141
1984	8,319
1985	8,440

NEW HOUSING UNITS AUTHORIZED



LUMBER PRODUCTION[D4]
In million board ft.

YEAR	WA	OR
1960	3,377	7,402
1965	3,648	7,580
1970	3,189	6,680
1975	3,104	6,342
1980	3,161	5,784
1981	3,243	5,115
1982	3,059	4,682
1983	3,821	6,579
1984	3,697	7,202
1985	3,480	6,800

WOOD PULP[G] PRODUCTION
In thousand short tons

YEAR	WA	OR
1960	NA	NA
1965	NA	NA
1970	3,848	2,643
1975	3,585	2,480
1980	3,519	3,787
1981	3,274	2,489
1982	3,394	2,656
1983	3,622	2,845
1984	4,031	2,808
1985	NA	NA

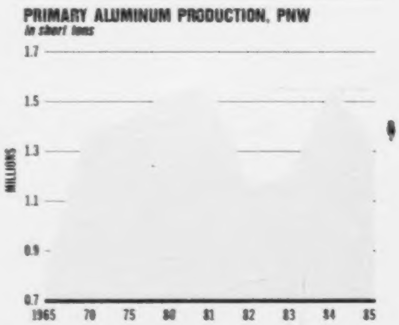
LOG[H] EXPORTS
In million board ft.

YEAR	WA & OR
1960	NA
1965	901
1970	2,216
1975	2,225
1980	2,632
1981	1,987
1982	2,568
1983	2,592
1984	2,722
1985	3,004

FOREIGN TRADE[A5]
Portland & Seattle Customs Districts
In millions $

YEAR	EXPORTS	IMPORTS
1960	625	305
1965	829	427
1970	2,688	1,652
1975	6,224	4,781
1980	15,770	11,836
1981	16,155	12,787
1982	12,208	11,899
1983	13,723	12,826
1984	14,216	16,323
1985	15,553	17,349

PRIMARY ALUMINUM PRODUCTION, PNW
In short tons



ALUMINUM[I6] PRODUCTION
In thousand tons

YEAR	PNW
1960	527.3
1965	796.5
1970	1,390.0
1975	1,411.0
1980	1,547.4
1981	1,600.1
1982	1,135.6
1983	1,174.8
1984	1,574.3
1985	1,356.4

ELECTRICITY[J7] PRODUCTION
In megawatts

YEAR	PNW
1960	69,386
1965	99,873
1970	143,993
1975	171,797
1980	206,221
1981	195,060
1982	184,822
1983	181,405
1984	195,157
1985	193,093

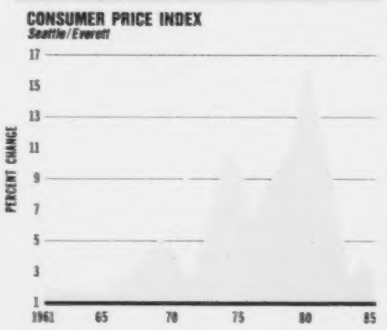
BPA ENERGY SALES[K]
In millions of KWH

YEAR	
1960	29,449
1965	37,211
1970	56,327
1975	68,934
1980	72,448
1981	82,001
1982	81,381
1983	82,781
1984	87,936
1985	83,802

DEPARTMENT STORE SALES[A]
In millions $

YEAR	PORTLAND	SEATTLE/ TACOMA
1960	NA	NA
1965	NA	NA
1970	NA	NA
1975	NA	NA
1980	860	1,059
1981	910	1,133
1982	NA	NA
1983	1,064	1,325
1984	1,017	1,343
1985	1,093	1,343

CONSUMER PRICE INDEX
Seattle/Everett



CONSUMER PRICE INDEX[L8]
1967 = 100

YEAR	PORTLAND	SEATTLE/ EVERETT
1960	87.1	87.9
1965	94.6	94.5
1970	113.2	114.0
1975	156.5	155.8
1980	255.4	252.1
1981	278.2	279.7
1982	287.0	297.8
1983	290.1	302.8
1984	301.0	313.9
1985	312.4	321.9

AVERAGE PRICE[K9] OF BPA POWER SALES
In mills per KWH

YEAR	
1960	2.78
1965	2.78
1970	3.25
1975	3.51
1980	7.26
1981	11.70
1982	18.00
1983	22.00
1984	22.00
1985	22.00

AVERAGE HOURLY EARNINGS[F]
for manufacturing employees

YEAR	WA[10]	OR	ID
1960	$2.63	$2.55	$2.25
1965	2.98	2.94	2.65
1970	4.06	3.82	3.29
1975	5.82	5.53	4.77
1980	9.64	8.65	7.55
1981	10.59	9.47	8.04
1982	11.17	10.02	8.62
1983	11.42	10.21	8.49
1984	11.54	10.44	9.34
1985	11.60	10.49	9.41

SOURCES

A. Bureau of the Census, U.S. Dept. of Commerce.
B. Bureau of Economic Analysis, U.S. Dept. of Commerce.
C. F.W. Dodge Division, McGraw-Hill Information Systems Co.
D. Western Wood Products Assoc.
E. American Plywood Assoc.
F. Washington State Employment Security Dept., State of Oregon Employment Div., State of Idaho Dept. of Employment.
G. "Pulp, Paper, and Board," Bureau of the Census.
H. U.S. Forest Service.
I. Direct Service Industries, Inc.
J. Pacific Northwest Utilities Conference Committee.
K. Bonneville Power Administration.
L. Bureau of Labor Statistics, U.S. Dept. of Labor.

FOOTNOTES

1. Includes armed forces residing in each state. 1965, 1975, 1981–85 are July 1 estimates.
2. FOB mill realization, coast region (Oregon and Washington) for Douglas fir.
3. Includes all types of structural panels.
4. The 1985 figures are estimates.
5. Data do not account for export of aircraft or shipments that pass through the Northwest and clear customs elsewhere. The 1980 figures do not include imports or exports by air.
6. Includes six primary aluminum producers in Washington, Oregon, and Montana.
7. One Megawatt = 1,000 kilowatts.
8. CPI for all urban consumers.
9. One mill = 0.1 cents. Price cited is wholesale BPA price to publicly owned and investor owned utilities for service to residential customers.
10. Data exclude bonuses given to Boeing Company employees.

(continued from page 11)

proved their intermodal facilities where containers are moved on or off trains. With both port and rail operations fine-tuned, it is not clear what these ports will do for an encore.

Major expansion of Pacific Rim trade is expected by the ports over the next two decades. For example, in August of 1985 the Port of Seattle published a forecast showing an increase in total tonnage from 6.4 million metric tons in 1984 to 9.3 million metric tons in 2000. Much of the growth will be in containerized cargoes, with the total forecasted container TEUs approaching 1,500 from a 1984 level of close to 1,000 TEUs. In achieving those increases, Seattle faces potential competition from Tacoma, the Southern California ports, and new all-water service by several carriers that ship through the Panama Canal to the East Coast. Thus, future expansion of the West Coast ports will be in an atmosphere of intense competition.

Competitive behavior is not restricted to California ports. Intense rivalry exists between Seattle and Tacoma as they battle for the status of the largest port in Puget Sound. Tacoma has taken a giant leap forward by enticing Sea-Land, a major container shipping firm, away from the Port of Seattle. Seattle recently attracted a smaller line away from Tacoma. Still second in terms of container units, Tacoma is about the same size as Seattle in total tonnage. Seattle, at least until the Sea-Land move, was way ahead of Tacoma in the value of goods moved through the port. The competition between these two is fast, furious, and sometimes bitter, being linked to Tacoma's long-standing underdog image relative to Seattle.

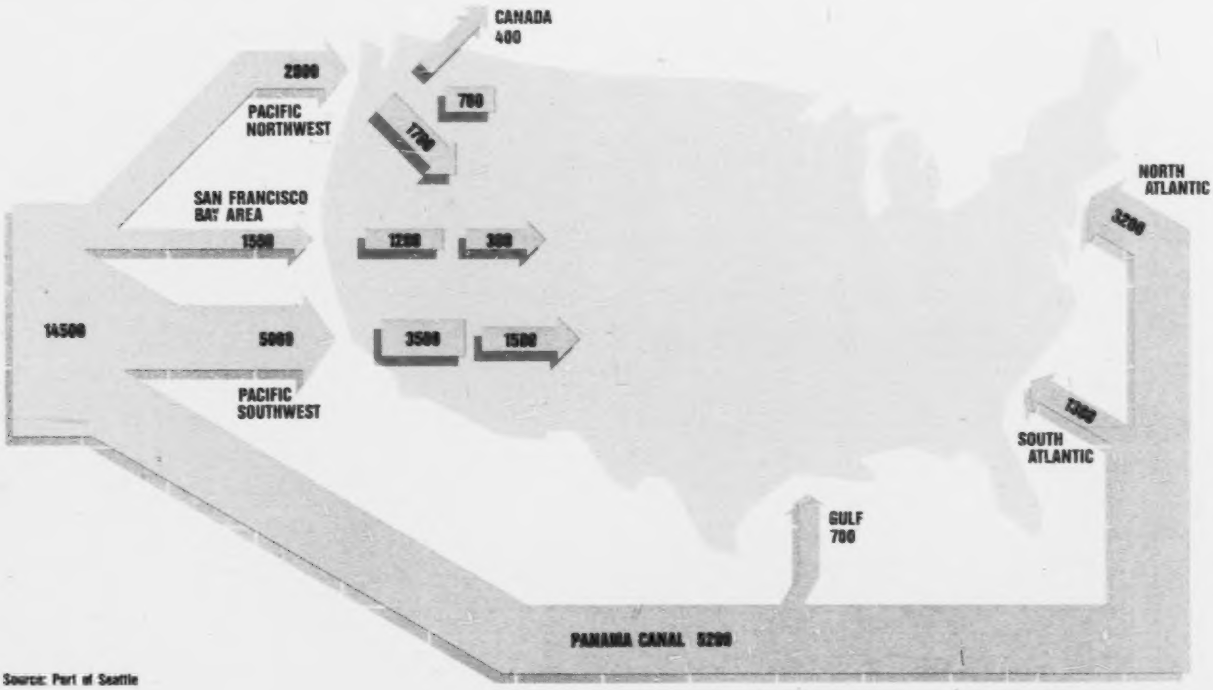
Portland, located along a major river transportation system, has a natural advantage in the agricultural export trade that is difficult for Seattle and Tacoma to overcome, but competition does exist because of the large grain elevators in both Seattle and Tacoma. Auto imports are another area of competition, with Portland remaining dominant in this field. Portland enjoys comparable rail service from Burlington Northern, and superior service from Union Pacific since the latter railroad's track runs from Puget Sound down to Portland and then east. This rail connection keeps Portland very competitive in the auto-importing market.

Trade with Alaska is also an important segment of business for Puget Sound ports, and a trouble spot at present. Manufactured goods are shipped to Alaska via ships or barge convoys from Puget Sound ports; oil is shipped by tankers from the Port of Valdez to refineries in the Puget Sound. The dramatic decline in the price of oil since late 1985 has severely depressed Alaska's economy, and thereby also poses a threat to several ports and other businesses in the Puget Sound area. The Port of Tacoma may be particularly hard hit by this development because both Totem Ocean Trailer Express and Sea-Land offer shipping services to Alaska. In addition, oil field module construction will be cut back; the Port of Tacoma is one of the key spots where modules are constructed.

Finances

Ports finance their activities through a combination of earned and unearned income sources. The principal sources of operating income are fees charged to users of port facilities, and income from property leased out for privately operated terminals,

Figure 3: US–Trans-Pacific Waterborne Container Imports, 1984
in thousands of tons



Source: Port of Seattle

A Look at One Company's Use of Ports

Ports are heavily used by distributors in many industries. One such company, Seattle Pacific Industries (SPI), known to many as Unionbay Sportswear, has been using the ports of Seattle and Tacoma on a weekly basis since its start-up in January 1981.

Eighty percent of SPI's goods are manufactured in Hong Kong and Taiwan. In 1986 the corporation will import eight thousand tons, constituting 12.5 million units of clothing, from the Orient through these ports. In a regular month, SPI imports approximately $20-40 million of wholesale merchandise.

The timing of deliveries is a crucial factor not only for SPI, but for the major department and smaller retail stores it serves. Apparel begins to depreciate the moment it leaves the manufacturing plant, and sportswear, as "perishable" seasonal fashion, has a defined market life of only one month in the stores before the next delivery replaces it. Shipping, port handling, customs clearance, and domestic distribution need to be transacted quickly. The port, as a constant in the trafficking process, provides predictable service in the face of other variables such as transit time and customs inspection. Seattle's geographic proximity to the Pacific Rim and its reliable port make it a cost-effective business location for the sportswear industry. SPI's relationship with the port helps it to compete in the sportswear trade.

warehouses, manufacturing, and other uses. Other revenues come from general property taxes. The Port of Seattle shows these taxes capitalized since they are used to finance investments. The ports of Portland and Tacoma show tax revenues as unearned income. Additional funds for capital projects are raised from net earnings or through general obligation and revenue bond issues. The bond issues, of course, turn into future requirements for tax receipts or earned income to pay off the bonds.

These funds are expended to carry out day-to-day operations and to finance the investment programs of the ports. Major investment projects underway or recently completed include the upgrading of several of the Port of Portland's facilities, and construction of a major container facility to accommodate Sea-Land at the Port of Tacoma. Seattle's plans to develop additional terminal capacity along the Duwamish River are now on hold in the wake of Sea-Land's departure.

Return on Investment

Are the taxpayers getting a good return on their investments in port facilities? This is a question with many answers, depending on how one evaluates the return on investment.

The simplest approach to return on investment is to compare the excess of revenues over expenses to the accumulated equity of each port. This approach has its limitations since the equity on the books is valued at historic cost less depreciation, not what it would bring in the market were this a business offered for sale or a corporation offering stock at market determined prices. Nevertheless, it is the most comprehensive measure of return available.

Our calculations of return on investment (see Table 3) utilize revenues from marine terminal operations only, leaving aside airport and other operations of each port organization. In the case of Seattle, assets identified as marine terminal assets are used in the estimate of equity. For Portland, no information is available on identifiable marine assets. Finally, Tacoma has only marine terminal assets. Thus, the rate of return estimates are not strictly comparable.

The Port of Portland's total revenues from marine terminals and services came to about $56 million for the fiscal year. However, expenses including depreciation totaled $62 million, resulting in an operating loss of nearly $6 million. In the three most recent fiscal years, operating deficits after depreciation of $3 million to $6 million on an equity base of a little over $200 million resulted in negative returns of 1.5 percent to 2.7 percent per year. If Portland's airport revenues are also considered, the rate of return is even worse since the airports are also losing money, although not as much as the marine terminals. The Port of Portland has announced a new budget that projects an end to these losses in the next fiscal year.

Marine terminal operations earned the Port of Seattle approximately $42 million, a profit of $1.5 million after expenses were taken into account. In recent years, the Port of Seattle has been making money, about $1.5 million to a little over $2 million per year, which equates to a 1 percent return on equity.

Table 3: Rates of Return
in millions $

PORTLAND [1]	**1983**	**1984**	**1985**
Net income	−2.948	−5.110	−4.800
Equity	202.553	206.481	215.342
Rate of Return	−1.46%	−2.47%	−2.22%
SEATTLE [2]	**1983**	**1984**	
Net income	1.538	2.297	
Equity	403.511	380.515	
Rate of Return	0.4%	0.6%	
TACOMA [2]	**1983**	**1984**	
Net income	11.476	11.537	
Equity	118.822	130.399	
Rate of Return	9.66%	8.85%	

[1] Fiscal years ending June 30

[2] Fiscal years ending December 31

SOURCE: Annual reports of Ports of Portland, Seattle, and Tacoma

The Port of Tacoma is the standout performer with an operating surplus of about $11.5 million per year in the last two years, yielding a return on equity of 9 percent or better.

These results are especially sobering when the opportunity costs of capital are considered. Municipal bond yields averaged 11.2 percent in 1983, 12.4 percent in 1984, and 10.9 percent in 1985. Even Tacoma's high performance yields the taxpayers less than they could have earned by investing funds in the municipal bond market. In effect, all three of the Pacific Northwest's large ports are losing money when opportunity costs are taken into account.

These calculations do not reflect tax subsidies, which further reduce the rate of return due to operating income. Each of these Pacific Northwest ports levies property taxes. Portland's taxpayers contributed $13.9 million to the port in fiscal 1985, and $6.9 million in fiscal 1984. In Seattle the property tax produced revenue of $19.5 million in 1984. For Tacoma, tax receipts amounted to $4.4 million in 1984.

Port tax receipts may legally be used for either operations or capital improvements, but these ports state in their annual reports that the tax revenues are used to retire existing general obligation bonds or to construct new facilities. Thus, the levy shows up on the revenue side of the books as a nonoperating income source, but on the expense side as an investment and on the balance sheet as an increase in taxpayer equity. Since the taxpayers have been earning a lower return on their money than they could get in alternative investments, the overall economic impact of ports on their communities is a relevant issue. Unless the job benefits or stimulation provided to the business community are large, the taxpayer could be getting a poor overall rate of return.

Each of these ports claims benefits to the community due to jobs and business activities stimulated by the activities of the port. Banks, customs house brokerage firms, law firms, insurance firms, and barge, tug, railroad, and truck operators all have direct business relationships with the ports or the steamship companies that use the ports. Selected manufacturing operations also locate within or near ports to minimize the costs of getting finished products onto ships, or inputs off ships and into factories. Examples of such firms include oil field module fabricators (product exported) and cement manufacturers (inputs imported).

All of these service and manufacturing companies purchase a wide variety of goods and services locally, resulting in indirect or "multiplier" effects of the port-related businesses. When all of this direct and indirect port-related business activity is added up, the numbers can be quite impressive. For example, the Port of Seattle's 1984 annual report claims that the port's business volume of $105 million was associated with a total economic impact in King County of $5.3 billion in business revenues, 82,800 jobs with a payroll of $1.9 billion, and $58 million in tax receipts. The $19.5 million in taxes received by the Port of Seattle produced new tax revenues from port-related businesses amounting to $58 million. This is a return of $2.97 for every dollar invested. Any private sector firm realizing that kind of return on investment would seek to expand to earn yet more, and historically that is just what the port has sought to do.

All businesses have relationships with and impacts on other businesses; ports are not unique in this regard. Does the port "create" more jobs than the telephone company or a steel rolling mill or a new high-tech plant? Does the public status of the ports put it in a special category when one considers such issues? We can not answer such questions in this article, but we think they are worth asking, especially since the ports all appear to be poor investments by a narrow return on equity criterion.

Using the return on equity criterion (and neglecting any possible appreciation of the ports assets), the region's ports present startling contrasts, indicating the risks the ports and their taxpayers are taking. Portland is investing for the future, betting that improved container and auto import facilities will augment its traditional agricultural export business. The Puget Sound ports, with comparable rail connections, a readily accessible service infrastructure, and room to grow, have better prospects than Portland of succeeding in the containerized trade with Asia. However, the stakes are high when one considers the offerings of the major ports in California.

Viewed in this context, a cautious approach to expansion might be indicated. A business that just barely ekes out a profit—a profit that appears to be subsidized by taxpayers—provides a questionable record on which to base an ambitious expansion program. Intense rivalry is a precarious foundation on which to base expectations of future returns. Low returns as experienced in the past and high risks are likely outcomes. A better strategy might be to put more emphasis on the profitability of particular market niches, and less emphasis on a frontal attack on the market share of the Southern California ports.

Current Policy Issues

■ THE REGIONAL PORT CONCEPT

Some observers of the Puget Sound ports, including at least one Port of Seattle commissioner, believe that the competition between the Ports of Seattle and Tacoma is inimical to the goal of maximizing the Puget Sound's prospects in the competition for trans-Pacific traffic. They argue that some sort of regional port authority could do a better job of marketing a combined entity's services, resulting in faster growth of international trade for the region as a whole. Operating economies might be possible as well. A regional port might also include the smaller ports such as Longview, Olympia, Everett, and Bellingham, which have their own specialized niches in international and domestic trade.

Countering these arguments are perceptions in the Pierce County area that the Port of Seattle is just trying to gain control of a successful competitor with more expansion potential. Given Tacoma's underdog image, many of its residents are not supportive of a power grab by Seattleites.

The marketing advantage argument is a subjective one that is difficult to evaluate. One might assume that sophisticated and discriminating shippers in Asia can pick and choose for themselves, and will go to the port that offers them the best deal. Whether any economies can be achieved in administration, marketing, or the provision of services through specialized facilities at separate locations deserves a careful look.

Any combined entity would require a strategic plan, with some accommodation to the inherently competitive economic development interests within the region. Should the region continue to pursue container traffic in a fierce competition with Southern California, or develop some specialized niches as the Port of Portland is seeking to do? What goal would a regional port pursue: maximum job growth, maximum return on taxpayer investment, or maximum growth of container traffic or total tonnage on the assumption that job benefits or adequate return on investment would follow? Lack of agreement on overall goals, the distribution of benefits, community rivalry, and political control issues suggest that creating a Superport in Puget Sound would be a difficult undertaking.

■ PRIVATIZATION

Virtually all large port facilities in the United States are publicly owned. It is a doctrine among public port managers that public ownership of port facilities provides community benefits that could not be captured with private ownership. Whether privatization of investment in terminal operations would yield better returns, both in profitability and in community benefits, is a question seldom addressed. However, with taxpayer subsidies and low rates of return in the public ports, it may be worth reconsidering whether partially or completely privatized ports could do a better job.

The substantial risks in the imported goods trade suggest another reason for considering privatization. As the stakes get larger, and the competition more fierce, is it appropriate to risk taxpayer money in a volatile marketplace? The private sector is where such risks are usually taken. Partial privatization already exists, with grain elevators, terminals, and other facilities leased on a long-term basis to private firms, and some development of these facilties financed by the lessees. Thus, along with regionalization, the concept of privatization of ports is worth considering. ıllı

Robin Hill, an MBA student and member of the **Pacific Northwest Executive** *staff for the last six months, has completed her degree and taken a position as customer support manager with Custom Software Services, Inc. We are grateful for her contributions to the Regionwatch pages, and wish her well as she enters the software industry.*

The Rising Sun Over Moses Lake

by Kathryn Sutton Cullen and Barbara M. Sullivan

At first glance, Moses Lake, a small town in the center of Washington state, is the image of rural America. A closer look, however, reveals a solid Japanese presence, made most conspicuous by the continual touch-and-go landings of a Japan Air Lines (JAL) 747.

Japanese and JAL in Moses Lake? Most individuals respond with surprise. Yet Moses Lake has had a Japanese presence since the 1940s, a presence that during the past twenty years has shifted from an agricultural one to active capital investment by Japanese corporations.

In the last few years, decisions by Japanese firms to build manufacturing and distribution facilities in the United States rather than in Japan may have been influenced by an anticipation of the strengthening of the yen and pressure from the trade deficit. Economic factors such as these, however, only partially account for Moses Lake's success in attracting an earlier sizeable investment from JAL or the more recent siting of three Japanese manufacturing plants. Of the 118 firms in Washington with Japanese ties, only 2 others are located in the eastern part of the state: small plants in Colfax and Richland employ a total of twenty-one workers.

Moses Lake itself has a population of 10,370, with a total of 24,000 people living in a five-mile radius. Japanese investments have brought money and more than four hundred jobs to Grant County and Moses Lake, relieving the sting of an unemployment rate of 13.4 percent in 1984 and 11 percent in 1985, but not by replacing American workers with large numbers of Japanese employees (see chart next page).

How has Moses Lake succeeded in securing a Japanese commitment to such a rural, sparsely populated area, so unlike most of Japan? What historic, geographic, economic, and social factors have influenced the Japan–Moses Lake relationship, and is this a model that applies to other Northwest communities?

Geographic Resources

Land. Given the agricultural foundation of the Columbia Basin economy, it is not surprising that this was also the basis for the earliest Japanese contacts. The Japanese farmers who moved to the area from Japan, the West coast, or from the Yakima Valley starting in the 1940s continue an active involvement today in the community and in the Japanese Agricultural Training Program (JATP).

The JATP, a descendant of the program originated by Japan and the National 4-H Club in the 1950s, came under the administration of Moses Lake's Big Bend Community College Foundation in 1966. Through this program, the Japanese Ministry of Foreign Affairs sends 110 to 150 young men each year to study American agriculture in the

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THE JAPANESE PRESENCE IN MOSES LAKE*

NAME OF CONCERN	YEAR ESTABLISHED IN MOSES LAKE	INITIAL INVESTMENT	TYPE OF BUSINESS	NUMBER OF JAPANESE INVOLVED	NUMBER OF AMERICANS INVOLVED	TOTAL PEOPLE INVOLVED
Japanese Agricultural Training Program (JATP)	1966	Costs shared by Japanese government and trainees	Agricultural training	110–150 per year (return to Japan after training)	10+	120–160+
Japan Air Lines (JAL)	1968	Renewable 3-year lease with the Port	Pilot training	20 permanent staff; 20–100 rotating pilots at any one time	3	43–123
International Titanium, Inc. (ITI): 20% Mitsui & Co. 80% Wyman-Gordon	1981	$35 million	Manufacturing: titanium sponge	1	189	190
Union Carbide, License with Komatsu Electronic Metals	1984	$85 million	Manufacturing: polycrystalline silicon for semiconductors	0	220	220
Moses Lake Industries 100% Tama Chemicals, Ltd.	1984	More than $1 million	Manufacturing: ultrapure chemicals for fiberoptics & integrated circuits	1	5	6
TOTAL		**More than $121 million**		**152–272 (22 permanent employees)**	**427**	**579–699**

* AS OF APRIL 1986

classroom and on the farm. Over 2,600 young Japanese farmers have begun and ended their two-year internships in Moses Lake, and the relationships formed remain strong.

In October 1985, a delegation of fifty host farm families and others from the Moses Lake area attended the JATP's twentieth anniversary celebration in Tokyo; many were reunited with the students they had sponsored and worked with over the years. Graduates of the program have even chosen to return to Moses Lake for their honeymoon. The existence of the JATP was also an important factor in establishing the Moses Lake–Yonezawa sister-city program in 1981.

Energy. Residents of Grant County voted to form the Grant County Public Utility District (PUD) in 1942 to oversee the future irrigation rights and electrical generation from two lower Columbia River hydroelectric dams. Community leaders believe a key factor in convincing new concerns to come to Moses Lake is the cheap electrical power available. "We have yet to hear a cheaper rate quoted for the Northwest, for the United States, or, for that matter, for anywhere else," states Larry Peterson, the development consultant for the Port of Moses Lake. The low electrical power rate is primarily due to the capital outlay of the dams, which were built in the 1950s and early 1960s at low interest rates and construction costs. In addition, the charges are rising only slightly because there are no fuel costs, and operating and maintenance expenses are a small part of the overall figure.

The current low rate of 0.84 of a cent per kilowatt-hour is one-tenth what it is in Japan, an advantage certainly noticed by the energy-intensive industries that chose to locate in Moses Lake: International Titanium, Inc. (ITI), 20 percent of which is owned by Mitsui; Union Carbide, which has a licensing agreement with Komatsu Electronic Metals; and Moses Lake Industries, a division of Tama Chemicals. For these companies, the savings will run into millions of dollars annually. This advantage was also noticed by Mitsui Bank whose April 1986 publication alerted its member companies that ". . . the city of Moses Lake is especially well known for having lower cost electrical energy than any other area in the United States. . . and it looks as if it's rates will continue to be low in the future. For

this reason we recommend that any company needing huge amounts of electrical energy consider Moses Lake."

This low rate advantage, however, is only available for nonagricultural industrial companies whose peak loads do not exceed sixty megawatts. As the PUD begins to purchase power from the Bonneville Power Administration (BPA) to meet its load growth, customers with larger peak loads will be expected to pick up that portion of the cost. Grant County PUD estimates it will need a revenue increase of approximately 11 percent in April 1987 and another 11 percent increase in 1990.

The PUD has contracted for a 0.581 percent share of the Washington Public Power Supply System bonds for plants 4 and 5, which amounts to over $13 million out of the total $2.25 billion. This investment, however, will not affect its future electrical power rates. When it became clear that plants 4 and 5 would be terminated, Grant County PUD set up a reserve account with funds accrued through the selling of surplus power four or five years ago. This fund is large enough to handle any debt service the PUD may be required to pay.

Air. In 1965 the Air Force ended operations at Moses Lake's Larson Field and the property was declared surplus. Community leaders quickly recognized a number of advantages to be gained by purchasing this property: access to the second largest civil airport runway west of the Mississippi River, over eleven hundred low-cost base housing units, two airplane hangars, the terminal building and other support structures, plus more than three hundred acres suitable for industrial development. The area voters agreed to form the Port of Moses Lake and began promoting this valuable acquisition.

The Boeing Company, which had been at Larson Field since the U.S. government built facilities there for the final outfitting of the B-52s and KC-135s in 1956, was a natural choice for the first tenant. However, when that activity was shifted to Wichita in 1962, Boeing left Larson Field, returning only occasionally for aircraft testing or customer flight training.

Hearing of Boeing's endorsement of the nearly ideal flying conditions and ground support, Japan Air Lines arrived in November 1968 and established a flight training center. In the subsequent seventeen and a half years, JAL has steadily built up the largest fleet of Boeing jumbo jets—fifty-two at last count. At any given time, 20 to 100 of JAL's 1,401 flight engineers, co-pilots, and pilots are either undergoing initial training in the jumbo jets or the upgrading of their status. In the eighteen years it takes for them to reach the rank of captain, the JAL pilots are in Moses Lake fifteen times, participating in training sessions varying from two to three days for touch-and-go landing practice to stays of two to five weeks. While in Moses Lake, the pilots occupy an entire wing in one of the newer and larger motels.

The airport runway is not the sole attraction of the Port's development scheme. Industrial sites created from the adjacent airport property provide over eighteen hundred available acres, all with paved roads and power, water, and sewer lines in place. Half of these sites also have access to natural gas and the railroad. The land, zoned for light or heavy industrial use, is selling for $3,000 to $10,000 an acre, and more than a hundred companies are presently doing business there.

Strategy

The private and public sectors in Moses Lake are in remarkable agreement on the need to seek small- to-medium-sized companies employing two hundred to three hundred workers, as long as it is done at a pace that will preserve the Columbia Basin's agricultural base and promote economic diversity. The impetus for this has been the need to halt the repeated revenue and job losses from the large closures that have plagued Moses Lake over the years: the Army Air base shutdown at the end of World War II; Boeing's complete pullout in 1962; the exodus of Air Force personnel and their families, six thousand strong, when the Air Force closed Larson Field in 1965; and the sudden 1979 closure of the area's largest employer at that time, Utah and Idaho sugar (U&I, Inc.), with a loss of a thousand seasonal and permanent positions.

Since 1981, Port and community officials have succeeded in aiding three plant startups funded directly and indirectly by Japanese firms. Seven companies are presently considering locating in Moses Lake, with two of these more certain of their plans. However, this is due only in part to the favorable circumstances described earlier. Observers believe that major credit must be attributed to the remarkable agreement within the community—what they call "the Moses Lake attitude."

This community consensus exists in large part because, as City Manager Joseph Gavinski notes, "Adversity has unified us and has made us less willing to accept the status quo. We are also a young town, one without a rigid social hierarchy." In addition, in the forty-eight years since incorporation, Moses Lake has been a home to diverse cultures drawn by the military bases, migrant farm camps, JAL, and the Agricultural Training Program.

Moses Lake's population grew from 302 in 1938 to its peak of 12,622 in 1962. Its largest jump in population occurred between 1952, when irrigation and the Air Force brought added jobs, and 1962, when Boeing left. The population has been steadily declining since then. The final result is a community that is able to present itself as young, both in history and in the age of its citizens, tolerant, and united in its desire to facilitate new businesses.

The role of Washington state in helping Moses Lake realize its goals has improved in the last two years. Although the community believes it can make a case based on its own merits, recognition from the state that it—and eastern Washington—exists is

appreciated. State-sponsored tours by Japanese businessmen such as the Keidanren delegation have included Moses Lake on their itineraries, increasing the town's sense of partnership and participation in the state's effort to attract new firms.

The ability of Moses Lake to present a unified front when negotiating with the Japanese is helpful. According to Dr. Peter DeVries, president of Big Bend Community College, the unifying thread is the loose-knit cooperation among the various organizations in Moses Lake: the college, the Port, the PUD, the Chamber of Commerce, and JAL. "All are active participants on behalf of Moses Lake," says DeVries. This friendly relationship between the public and private sectors is similar to the relationship between business and government in Japan, and is therefore reassuring to potential Japanese investors.

The Japanese Investors

There is no question that economic incentives were important to the Japanese considering locating in Moses Lake. When Ichie Suzuki, executive vice-president of ITI of Washington, was asked "Why Moses Lake?" he replied, "Cheap power, the dry climate, a high unemployment rate, and access to I-90 and the Burlington Northern railway." Ed Baroch, president of Moses Lake Industries, noted that the cheap land and low power rates were what attracted the president of Tama Chemicals to the area. For JAL, the facilities at the Grant County Airport were a primary consideration.

What about unionization? Japanese businesses are not comfortable with unions; they prefer a consensual form of management and see unions as adversarial. Community promotional literature is quick to note that Moses Lake is a nonunion town, yet ITI employs 189 American workers, 110 of them members of the United Steelworkers of America. The ITI decision to locate in Moses Lake suggests that since other factors were strongly positive, the presence of a union did not interfere with investment.

The availability of trained labor in Moses Lake also is an important issue. In 1983 the state funded a $3 million job skills program and encouraged community colleges and interested employers to apply for matching grants to design and implement customized training programs. Big Bend Community College provided one of the first programs financed by the fund and trained 225 workers for the Union Carbide polycrystalline silicon materials plant in Moses Lake. On the other hand, ITI's Suzuki has a need for chemical technicians that he has been unable to fill locally. He has had to recruit outside of the area as well as set up an in-house, on-the-job training program.

Although Moses Lake is happy to use economic incentives to attract investment, there are risks, particularly in the area of environmental pollution. Noise from the JAL planes constantly taking off, circling, and landing is noticeable, but it has not been intrusive, and the Port has received few complaints from area residents. ITI has been the recipient of more vociferous complaints including allegations of more than 270 unauthorized cloud emissions from its plant. Between September 1983 and January 1986, seven lawsuits had been filed against ITI, alleging damages from emissions thought to be titanium tetrachloride and hydrogen chloride. There is still a great reservoir of pro-industry support evident in the town, but further environmental assaults could endanger that support.

There are other difficulties for the Japanese. Moses Lake is a rural community and can not provide the urban facilities to which many Japanese are accustomed. A more profound disadvantage is the lack of a strong Japanese supplemental school in Moses Lake. Important nuances of the Japanese language and culture can easily be lost if children are not constantly exposed to them. In larger cities Japanese employees can usually send their children to a supplemental school, improving their ability to successfully compete with their peers when they return to Japan. JAL established an "after hours" school that meets for six hours each week; however, the Japanese instructor is not a professional teacher.

Seattle has a large, well-organized supplemental school with a principal who is employed by Japan's Minister of Education. For this reason, ITI's Suzuki settled his family in Bellevue, Washington even though it means he must commute between Moses Lake and Bellevue every weekend. His teenaged daughter attends the Japanese supplemental school in Seattle and will be leaving soon for college in Japan. Suzuki feared a move to Moses Lake might jeopardize her academic career back home.

The sociocultural factors that the Japanese find attractive in Moses Lake are not immediately discernible, but in the long run they may be decisive. A warm welcome and a sense of community suits a business culture that prizes reciprocity, courtesy, and personal relationships as much as it does the bottom line. Moses Lake recognized the importance of these attributes and spent twenty years building an intricate partnership with Japan, layer by layer.

Japan Air Lines

The foundation of this "layering" is Japan Air Lines. Since the community actively sought the JAL program, a warm welcome was assured, a welcome that over the years has evolved into genuine friendship. JAL employees live in homes scattered throughout the town, undermining the stereotype of the cliquish Japanese. The mayor of Moses Lake went to Everett, Washington to help JAL celebrate the rollout of its fiftieth 747, and the Port of Moses Lake erected a fountain honoring JAL in the city. Friendships are formed on and off the job—at the country club, the Rotary Club, and on the golf course. Wives as well as husbands participate in the social life of Moses Lake.

This community acceptance has delighted JAL. Although its contract with the Port of

ATTRACTING INVESTMENT TO MOSES LAKE

Development Tools	**Potential Problems**
Low electrical rates	Unforeseen growth in demand requiring purchase of more expensive power from BPA or others
Plentiful, low-priced industrial sites	Cost of adding infrastructure
Available labor force due to high unemployment rate	Out-migration if local jobs are not available
Customized job training program by Big Bend Community College	Rate of responsiveness of Big Bend Community College
Climate: clear with moderate winters and dry summers	Dust contamination in the summer
Moses Lake is familiar to Japanese; positive recommendation through personal contact	Negative evaluation by former Japanese residents of Moses Lake
High degree of acceptance and cooperation with new industry by both public and private sectors	Environmental threats by new industry; impermanence of new industry
Japanese supplemental school	Lack of professional instructors; number and age of students

Moses Lake expires every three years, Teruyoshi Asakawa, director of the JAL flight crew training center says, "JAL will be in Moses Lake forever!" JAL actions support this verbal enthusiasm. In 1980 the president of the airline presented the town with a $30,000 check to help clean up the ash left by the eruption of Mt. St. Helens. Every year Moses Lake sixth graders are treated to a JAL 747 flight around the area, and Miss Moses Lake is sent on a trip to Japan, compliments of JAL. Money is given annually for parks and recreation, and each year round-trip tickets are provided for five high school students who spend a week in the homes of families in Moses Lake's sister city of Yonezawa.

A more subtle benefit provided by JAL is the increased awareness of Moses Lake in Japan. Japanese investors look more carefully at a community that enjoys the respect of an important Japanese corporation, and over the years informal contacts between JAL and Japanese executives have benefited Moses Lake. The town has been featured in three episodes of the popular Japanese soap opera "White Runway," and the constant turnover of JAL staff and pilots assures continued name recognition.

A Model?

Whether Moses Lake is useful as a model for other communities in the Northwest is questionable. On the economic front, the model transfers fairly well. Electric rates throughout the region, though not as low as Moses Lake's, are low by Japanese standards. The need for land, labor, and transportation can be met by other towns in the Northwest, and the states in this region are slowly learning to work with all areas within their boundaries in attracting foreign investment.

The Moses Lake experience in the sociocultural area is more difficult to duplicate. The JAL advantage is unique. JAL, along with the Agricultural Training Program, is an integral part of the community, enabling Moses Lake to maintain a business environment in which the ties to Japan are numerous, long-standing, and strong.

The lesson may be that economic incentives are necessary but not overriding factors in a decision to invest. Moses Lake's willingness to meet most of the sociocultural needs of Japanese business—friendship, partnership, and support—may be the secret of its success.

The future of Japanese investment in Moses Lake is difficult to predict. JAL and the Agricultural Training Program are solidly entrenched, and Moses Lake Industries remains excited about its new location. The company originally planned to purchase ten acres in Moses Lake, but ended up buying eighty-five. The commitment of ITI to the community is less reassuring. Mitsui's former partner, Ishizuka Research Institute, recently sold its share of ITI to Wyman-Gordon, an American company. The manufacture of titanium sponges is a competitive industry, and since Mitsui is now only a 20 percent owner of the corporation, the Japanese willingness to sustain financial hardship for several years may be negated by corporate decisions made elsewhere.

When Baroch of Moses Lake Industries was asked what he thought were the top considerations of Japanese firms making decisions on future investment, he replied, "First, they want certainty, second, certainty, and third, certainty." Yet these more recent Japanese investors may be unable to give this same kind of reassurance to Moses Lake.

Moses Lake continues to pursue Japanese investment, realizing the stakes are high and the competition is intense. Success in the past does not guarantee success in the future, but Moses Lake hopes it has given itself a good head start.

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Staff Leadership, Power, and Politics

by Geoffrey M. Bellman

In the 1980s we have more people working as staff executives than ever before. In addition to the long-standing staff departments, we find managers of service and support specialties that did not even exist ten years ago. Though increasing in number, all of these staff managers—like their predecessors—are still outside the direct line authority. They are managers of cost centers, rather than profit centers. They have special expertise in a narrow function. They are important and in support of those line managers responsible for the core mission and bottom line results.

This situation raises several questions. How do you provide leadership from a staff position? What power is available to a staff executive? How do organizational politics affect staff management? The thoughts of six staff executives from the Pacific Northwest are woven through my own as this article explores these questions of leadership, power, and politics from a staff executive's perspective.

Leadership

For a moment, I will polarize my views of management and leadership. By exaggerating their differences, we can understand each of them better. (See chart below.)

When you polarize your own perspectives on management and leadership, you may see them differently than I do, but your distinctions between the two will probably also be clear. Looking over each column, we see two quite different sets of abilities, both of which are important. Ideal executives would bring all of these abilities, with their related behaviors, to their work. Either set of abilities without the other is less effective. We would do well to hire with an eye toward having this array of talent available to us in our organizations.

Any executive working entirely out of the management column is likely to turn out a satisfactory performance. But the person described in this column is too rational to be highly innovative. The leader, on the other hand, is mindful of larger organizational purposes and possibilities. Leadership requires a dream or vision of the possible future; it has more to do with visualizing what could be than sorting out what is. It has to do with acting in relation to that vision, and articulating it for others to embrace. Leadership is characterized by a passionate commitment to this vision of the possible future. The leader's words and actions consistently express the importance of reaching out toward the future in a way that draws others into support of that dream.

Consider all this from a staff perspective. Staff departments are often managed and seldom led. At least that is my belief. If we do anything well as staff executives it is manage, and we do too much of it. In fact, we often try to manage ourselves out of situations calling for leadership. But improved procedures are no substitute for a

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Cynthia Sonstelie
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Betty Woods
Executive Vice President and Chief Administrative Officer, Blue Cross of Washington and Alaska, Seattle

Managers tend to:	**Leaders tend to:**
Decide in relation to established directions	Decide in relation to an envisoned future
Emphasize the rational, supported by feeling	Emphasize intuition, supported by reason
Use given resources effectively	Expand upon given resources
Work using plans and schedules	Work according to what is needed now
Be analytical, objective, and practical	Be intuitive, subjective, and "impractical"
Act in the present, using the past	Act toward the future, using the present
Emphasize knowledge and facts	Emphasize belief and commitment

PAM HENDERSON

clear mission. Knowing what is expected of you by others can not replace knowing what you expect of yourself. Being the manager of personnel or purchasing, public affairs or data processing, is far different from leading the same function. Leading requires a different kind of commitment, energy, and risk-taking than a left-columned manager could be comfortable with.

Sonstelie: *Staff leaders should risk by pushing the organization to articulate a vision of what it wants to be on a long-term basis. Given other day-to-day priorities, line managers may not devote time to this. We can be an important catalyst. We need to ask about and say what others may not want to hear. If we are not doing this, we are probably not doing our jobs.*

Foster: *Being bold, risking, is an interesting notion when you are working in a political fishbowl. Because of your visibility through the press, sometimes it's the small decisions that get you in trouble . . . an inadvertent phrase . . . an appointment not checked out. Being bold in the political realm is often more calculated than a wild gamble. In any leadership role, being bold is okay as long as you have done your homework and understand the consequences.*

Look around your organization How many staff executives can be described by the leadership column? We have too few staff executives who model leadership for us. And it is probably not the norm of your organization to actively reward for staff leadership. This makes it more difficult to take leaderlike actions, and puts a lonely responsibility on the individual who decides to behave like a staff leader.

Woods: *Staff people are very much in the leadership role without the authority because we have a different perspective on the organization. Here at Blue Cross, for example, one of the claims manager's jobs is to process claims at a certain level, and that's where the focus should be. My job is to help create a work environment where that can happen. This staff perspective is wider, on the total organization, and is a tremendous leadership responsibility.*

So why bother? Since you can not always count on rewards from the organization, there has to be a lot in it for you as an individual. Staff leadership is a process of creating your own rewards.

Sonstelie: *To lead, staff managers need to believe in themselves, in the importance of their function, and in their ability to impact the directions of the business . . . . They need to see themselves as key partners in the company's success.*

You are the one who must be motivated to move your department toward your vision of what it could be in the future (a vision that is not as important to anyone else as it is to you). You must pat yourself on the back for new policies you initiate and put before management (which they only accept in part). You must find satisfaction in knowing that you are doing your professional best (even when worried that your best may hinder your advancement in the company).

These examples (with their parenthetical downsides) require personal strength, which is the core of exceptional staff leadership, to carry them out. Staff leadership, like virtue, is its own reward; its benefits are created in the expression. The rewards come to those staff leaders who know that their work is a most important way of expressing who they are, and of growing personally, professionally, and as an executive.

Bellofatto: *We are grappling with vision and mission, values and philosophy... getting these clear and hooked together. This is what we should be spending our time on. Putting it aside is a fundamental mistake.... There is dignity to staff leadership when it is forward thinking, proactive, and impacting the directions of the corporation.*

Our work is one of the main ways we make a difference in this world. We see the workplace as an opportunity to be ourselves, rather than to constantly play a role that does not fit. We try to provide this same opportunity to the people with whom we work.

We do all this knowing that we are not in charge and in all likelihood never will be. That is the nature of staff work. We influence, not control, the line executives who run the corporation. So the motivation to risk, to lead from behind, must be quite personal.

What can a staff executive do to become more of a staff leader? Here are five actions that recognize vision, initiative, intuition, and strong beliefs, all elements of leadership.

- Ask your top management about the directions they see the company moving in and how your department can help. Then decide what you think should be done.
- Write a "white paper" on the future of your department as you envision it. Picture the contribution you would like to make to this company. You may do this just for yourself or you may choose to involve others.
- Encourage innovation in your department by making sure that it is always working on at least one new project that requires those involved to rethink what the department is about.
- Ask your department members to describe *management* and *leadership*. Have them assess you as a manager and as a leader. Find out what they think you do well and what you need to improve. Have your boss do the same.
- Talk with your staff about why they work for this company, in this department, now. Get a sense of how their presence ties to the larger purposes of their lives. Notice how their motivation relates to your own.

This list of examples is neither prescriptive nor comprehensive. It emphasizes thinking ahead, seizing the opportunity, being bold, acting on beliefs, and articulating a vision. That is what staff leadership is about.

Power

"...but I am only staff." You see the words; can you hear them too? What do they sound like? What are the feelings behind them? I often hear resignation, pessimism, anger, and fear. And I don't like it. How can an executive who regularly pleads "... but I am only staff" be effective? Can't he see what that mental framework precludes him from doing?

Peterson: *Power is more a matter of whether you want to be powerful and whether you have enough courage to follow through on what you say you want. We can make lame excuses for our lack of power, but in the end we have to take responsibility for what we actually do.*

Sonstelie: *The secret to having power in a staff role is to perform competently. Serve your customers well—give sound advice, listen well, respond in a timely fashion—and you will be included in future decisions. It also helps tremendously if your boss and peers, seeing the value of your contribution, suggest that others in the organization confer with you before acting. You can ask them for this help, but then you must make sure your performance is strong. Otherwise the support will be withdrawn.*

The reality is that most staff positions come with little formal power assigned to them. Formal power is important, but there are many other sources of power to draw from when we move ourselves out of the perspective of being only staff. The role we perform is a function of both the power that comes with the position and the power that comes with the way we choose to perform within the position. Formal and informal power are both critical to shaping the staff management role.

Woods: *When I get into a situation where I have to use power, I always go to my personal power rather than my positional power. You essentially don't have much positional power as a staff manager so you can't rely on it.... My guess is that effective staff managers have and use a lot of personal power.*

Coxey: *Be sure to work from a posture of personal power as opposed to positional power. Understand what your job is in relation to the mission of the company, and know that other executives have the same interest in seeing the company succeed as you do. You have to respect their views and understand their good ideas as well as your own if you want their cooperation.*

Too many of us accept our role as given, thinking of the more formal definition of what we are to do. Often not even the formal role is given, if the word *given* means fixed and immutable. As actors within the role, we are strong influencers of how the role is defined and performed. If anyone is going to redefine it, or recommend redefinition, it will likely be us.

Redefining our formal authority can be worthwhile, but is seldom satisfying. The worthwhile part is that in the process of clarifying what is ours to act on, we clarify for others how they are to work with us and this can make all involved more effective. The seldom satisfying part has to do with the fact that no matter how much formal authority we can pull together, it is not much as authority goes in the organization. Even what we have, we must use carefully.

Bellofatto: *We have the power to set and enforce rules.... The knowledge we have gained over time is that using this power as a club doesn't work. All it does is breed resistance and build walls. It is only when we ask how we can bolster the organization, help it move forward, that we truly succeed.... We have real power and when we misuse it, all we do is present ourselves as obstacles for others to circumvent however they can.*

Woods: *You can establish every policy in the world using your positional power, but if people don't value it, if it is not their own, they won't follow it. Day to day, they can sabotage your rules and you will wonder what happened.*

Foster: *At some time in his career, everyone who gets into politics has to deal with how powerful he is. If he is to be successful, he quickly learns when he uses his power that* *somebody is always more powerful.... To get things done he has to cooperate with others.... Those who use power blatantly get caught; those who use it more subtly, or not at all, get results.*

In the end our most important sources of power are not conferred but seized. These are powers related more to our abilities than to our positions. Some of the following examples of power are particularly apropos to staff executives.

- **Expertise.** We have specialized knowledge in our function that is exceeded by no one in the organization and we are paid to use it. We can build a respect for this power if we both develop our expertise and use it well.
- **Strategy.** We are expected through our policies, systems, and procedures to be thinking far beyond today. For the company's benefit, we anticipate and plan for tomorrow. This contrasts with many line managers too caught up in today's results to step back from the bottom line. They must deliver today. We are not usually as easily or immediately measured, allowing us time to step back from our work. This is a power to capitalize on.
- **Association.** Staff work often involves contact with the higher levels of the organization that many line managers only dream about. These contacts can be built into relationships that provide opportunities to influence top management.
- **Independence.** Many of us have skills useful to numerous organizations. These transportable skills provide us with more options than those individuals have who are bound to one company by abilities greatly needed there but nowhere else. Put another way, staff managers are often seen as more wedded to their professions than to their employers. This gives us another power. We can choose to pursue the professional course that we see as in the company's best interest, rather than one primarily designed to protect our personal position.

Each of these powers (and there are more) can be developed to the advantage of staff executives, their functions, and their organizations. To deny their existence, or their importance, is to miss out on important alternatives to formal authority.

Peterson: *In a management position you should have the ability and the desire to deal with power. Those who don't should not be in management, staff or line.*

Coxey: *Where staff managers are in organizations is largely up to them. If they play a secondary role, that is often what they have chosen.... They need to be as aggressive as line executives, an equal part of the team. Looking at yourself in this way will serve you better than anything else.*

Politics

State politics, corporate politics, departmental politics—our modifiers may differ, but the reality does not. Politics are part of the way a large organization operates. The thoughts and feelings you have about politics are important in how you deal with the politics of your organization.

Bellofatto: *To me, politics is synonymous with diplomacy. Do you want to beat your head against the wall, or find the best way of getting something done? If it's the latter, have your political antennae on all the time... not from the standpoint of pulling shady deals, but to most effectively accomplish the objectives you have set for yourself, your department, and the company.*

Peterson: *I equate politics with effectiveness. Whatever you have to offer is not very useful unless you are effective. Being effective has to do with gauging one's audience or market, not just following it, but understanding where it is. Politics is not just going the way of the crowd. You have to know where the crowd is in order to move it.*

Politics are the basis of trust and distrust, loyalty and undermining, giving and withholding, and contacting and avoiding. Without the formal and informal political systems that exist in your organization, it would come to a halt. Or perhaps because of the formal and informal systems, it has come to a halt. Either case demonstrates the power and importance of politics.

Foster: *If you get and maintain contact with your people, if you pay attention to them, that kind of concern with understanding is a form of leadership that has not been well recognized. A walk by their offices, a thank you, a short note of recognition... it's not dramatic, but it impacts support and productivity. It can also help you find red flags before they get waved.*

Eliminating politics would mean eliminating the advance warning you get from an associate in another department. It would mean not being able to line up support for a proposal before an upcoming management meeting. It would mean no more chats with your boss's boss about the direction of the company and his or her views of your possible role in that. Whether you are on the receiving end of these political benefits or not, you can imagine how each of them can help the organization and its members function more effectively. I suggest that you do the following:

- Acknowledge the reality of politics.
- Accept that politics are essential and will not disappear.
- Get close to politics so you can observe them and better understand them.
- Recognize that you are part of the politics.
- Act within the political framework in knowledgeable ways.
- Be positively political, working to the advantage of all involved.

While some staff executives avoid company politics (because we think that by definition we will lose or be sullied), others of us exult in the political arena to the point of finding our basic meaning there. We become too preoccupied with "the way you get things done around here" to ever get anything done. We are so focused on "who to know" that we don't know "what to know." This extreme is as unproductive as denial. Whether you make rash moves because you will not acknowledge political realities, or make no moves because the political moment is never quite right, you are still ineffective. Politics has to do with knowing when to move with what.

Coxey: *Most people who call politics dirty do not know how to deal with it. Their reaction is, 'I'm just not going to get involved.' Well, you can't avoid it if you're going to be effective.*

If you are politically unschooled, seek out someone more knowledgeable than yourself and take a few lessons. Ask questions, get answers, and pay attention to how results are achieved. Then choose what you will do. Considering political alternatives does not require selecting one. At a minimum, your political education will help you understand others and the organization better. More importantly, it could help you make intelligent choices from a broader array of alternatives. And best of all, it could help you get the results you want.

This exploration of staff leadership, power, and politics is to encourage you to think about the possibilities of your staff executive position. My emphasis on leadership, rather than management, is intended to help restore a balance to discussions that I see lacking in the literature. I continue to believe that management is just as important as leadership, and I hope that you can envision a day when you are effective at both.

Geoffrey Bellman is the author of a new book, The Quest for Staff Leadership.

Gallery

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Moses Lake, Washington, prior to economic development (1911).

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Can Expert Systems Work for You?

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Organized Labor—Where Is It Headed?

Commentary

Let States Bid for Nuclear Waste Repository

The site selection process for the permanent nuclear waste repository has become embroiled in regional sectionalism. The Department of Energy has designated sites in Washington (Hanford), Nevada (Yucca Flats), and Texas (Deaf Smith County) as prime candidates. When the Department of Energy added consideration of dump sites in seven eastern and midwestern states, where most of the waste is generated, public hearings there resounded with a chorus of "not in our backyard." Eastern states are unanimous that all nuclear waste should be sent to a single dump—as far west as possible.

In 1982 Congress set in motion a site selection process that is fundamentally flawed in concept. Apparently many legislators, including those from western states, thought science would dictate where the waste should be stored. Yet, no state wants those jobs and that kind of investment. When choices or tradeoffs have to be made, politics and economics become prime considerations. The site selection process has led to heavily populated, politically dominant states mobilizing to impose a site on a state with the least power to resist.

There is a fairer way for the federal government to select sites for nuclear waste disposal. An equitable and economically efficient procedure would allow states to bid, or make contract offers, to accept a qualified waste repository site.

In a market economy, to get people to do something they otherwise would not want to do, we offer to pay them. When the nuclear repository site is determined, the federal government will let the construction contracts out for bids. Why not let the site selection out for bids as well? For example, the state of Washington might make an offer: "We'll accept a repository site if you compensate us X millions of dollars per year for the next hundred years, indexed to inflation." An acceptable price to a state must provide enough in benefits to offset its costs of being the recipient.

Competitive bidding by states, on contracts to be awarded by the federal government to the state offering the lowest acceptance price for a qualified site, would resemble a market process. For a price, the reluctance of a number of states to being the repository recipient can be overcome. Providers of the site could be compensated for their social costs. Use of the bidding system would remove the coercive federal role by making the low-bidder a voluntary recipient.

The preparation of bids by states might involve multistate compacts and should involve regional representation from areas most proximate to possible sites. The offer price should cover compensatory cost reimbursement to the extent necessary to induce a favorable reception. Some communities may consider the economic benefits as favorable. The negative impacts on others could be mitigated by economic development assistance, compensatory environmental outlays, or support for other purposes, in order to overcome site opposition.

The compensation paid to a state to make it a willing recipient should be passed on to the creators of nuclear waste as a disposal cost. It is not only fair that the social cost of waste disposal should be paid by those who have benefited from the use of nuclear materials, but internalization of such costs will inhibit the overproduction of waste. If the producers of nuclear waste pay the full social cost of its disposal, they will have an incentive to curb the amounts of radioactive waste created. This will minimize the disposal problem.

A market-oriented solution is preferable to an imposed one.

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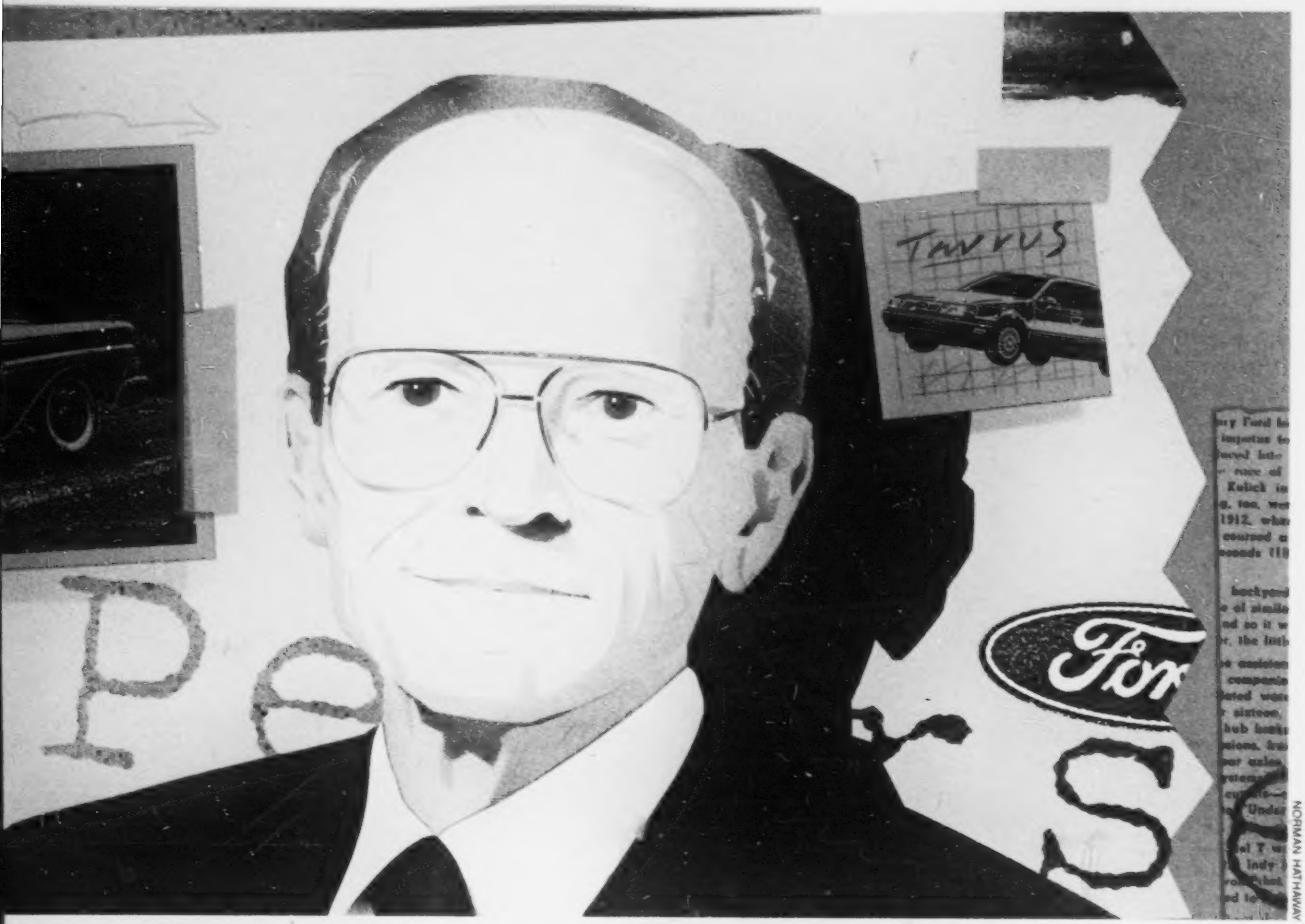
Business in the Eighties Managers of the Nineties

by Donald E. Petersen

Business has entered a new age. After a history of domestic dominance, the single most important new reality is the internationalization of the U.S. market. Global competition, international capital flows, and the integration of the worldwide economy are not distant vistas. The national economy is becoming increasingly indistinguishable from the international economy.

In 1985, U.S. imports and exports (total merchandise trade) amounted to $575 billion, a 150 percent increase over the 1970 total in constant dollars. Professor Paul McCracken of the University of Michigan recently remarked that for perhaps the first time since the United States has become a modern industrial economy, the most important influence shaping the trend of business conditions in the years ahead will be our external trade. This is a shift of historic proportions.

Theoretically, the trade in goods should flow both ways. Although there are many examples of competitive trade that fit the theory, there are far too many other examples of what Peter Drucker calls adversarial trade—a one-way flow that can have severe and negative impacts on the importing nation. The United States, in particular, is much more a consumer of imported goods than it is an exporter. The result is that the U.S. trade deficit reached a record of almost $150 billion in 1985, with Japan accounting for $50 billion of that total. The U.S. trade deficit with Western Europe and Canada totaled another $50 billion. Approximately $40 billion of the total deficit was with developing nations such as South Korea, Taiwan, Mexico, and Brazil. All of these nations have an intense focus on the U.S. market, the biggest and often most profitable market in the world. Many of these same nations, however, are unable or unwilling to find enough products to buy from the United States to keep any semblance of balance in the trading relationship. Consequently, important sections of U.S. industry such as electronics equipment, machine tools, and farm and construction machinery



NORMAN HATHAWAY

are at risk, and the list is growing.

The international cost competitiveness of U.S. industries is the underlying issue. Improving this nation's international competitiveness must be a major priority in all governmental decisions and actions. At a minimum, this requires continuing governmental initiatives on the exchange rate imbalances, on opening the markets of other countries to U.S. goods, and on addressing directly the dangerous levels of bilateral trade deficits with Japan and other nations.

The future of healthy, competitive trade, as well as the future of important sections of the U.S. industrial base and the jobs that go with them, is clearly at stake. New roads to travel and new ways to compete must be found, or manufacturing is likely to become an un-American activity. The United States has fallen behind in productivity and quality while other nations have moved ahead. Governmental initiatives are only part of the solution. Reducing costs, improving quality, and offering products of unequaled value to better serve the customer constitute the challenge confronting U.S. industry in the effort to compete internationally.

The Corporate Culture

How are American businesses meeting this challenge? At Ford Motor Company, the number one priority is to improve quality in order to win customers and keep them coming back. As quality improves, efficiency improves at the same time. Quality is a team sport. The days are gone when quality control could be a separate function at the end of the production process. Today, control over quality is being decentralized to involve the people in engineering, design, advertising, and beyond. Ford has been moving in this direction for several years, and has made significant progress. We will remain consistent in this effort because, with quality, there is no final victory. It is a never-ending challenge that has to be met day in and day out.

Technology is a key to improving quality and efficiency, but it is not a substitute for human judgment. To remain competitive in the auto industry, there is no alternative to relying on people. The pride people have in doing a good job, their desire for increased control over the production process, and their ability to work together toward a common goal are all important components of success. The progress Ford has made as a company is due most of all to reliance on people and their ability to simplify the process and apply the best technology. This idea of people in partnership dedicated to quality has extended to our suppliers and dealers as well. If quality breaks down anywhere in the chain, then the customer loses and we all lose.

This same concept extends beyond the boundaries of the United States and our North American operations. Ford has been an international company almost since its founding, but our international operations are far more integrated today than they ever have been in the past, as evidenced by a much higher level of exchange of personnel and ideas among our European, North American, Latin American, and Asian-Pacific operations. Although these operations are still in the early stages of exchanging components and products, this will increase in the future. We must continue to call on our best international resources companywide in order to provide our customers with the best in every market worldwide.

The struggle to remain competitive internationally, however, poses a serious dilemma for our company and for other companies as well. On the one hand, we are forced to source some components and products internationally in order to remain competitive. On the other hand, we have an obligation and desire to maintain as much of our production as possible here in the United States. Companies in other countries undoubtedly find themselves in the same situation.

We need individuals who can master change and have the good sense to separate what is significant from what is insignificant.

One of the best resources in the search for solutions to this and other problems is to turn to the ideas of the people involved. As we open up the lines of communication at Ford, everyone who will ultimately be affected can make his or her views known. Open communication and an honest exchange of ideas can lead to answers, or at least to a proper balancing of interests.

Fundamental changes are occurring in a variety of ways at Ford: the emphasis on quality and efficiency, the reliance on people, the internationalization of our efforts, and the improvement in communication. To institutionalize these important changes and make them part of our corporate culture, we have developed a statement of our mission, values, and guiding principles. This was not done so that people would have a nice-looking document to frame and hang on their walls. It was done to demonstrate that the concentration on open communication, the commitment to quality, the focus on customers, and the dedication to working together as a team and as partners are not just temporary campaigns that will come and go. These working concepts constitute the process we must use to improve our products and our profits. The future is what counts, and thus it is a mistake to look at a company's internal operations and then attempt to "develop" a corporate culture that is really just a reflection of the status quo. What we are trying to do at Ford is to define the kind of company we want to become.

Business Leaders of Tomorrow

Perhaps we, as a people, should be defining what kind of nation we want to be in the future. Will we continue to be a nation of doers and producers? Or will we sit back and watch other nations develop and progress, while this country falls further behind?

In the search for new answers, the various institutions of education have a crucial role to play. Our current employees can count on us to provide the necessary training and retraining; at Ford, we are doing that more than ever before. Our future employees, however, must rely on the nation's basic educational system. Business schools must be able to generate managers who are prepared for all that tomorrow will bring. The future of our nation depends on how well our young people are educated and encouraged to learn the traditional work ethic. We need a renewed national commitment to improving our educational system, especially our primary and secondary schools. Schools are in decline, and patchwork solutions aimed at holding the line will not suffice. Our nation must vastly improve its basic educational system.

We cannot stop at the primary and secondary schools. The quantity and quality of students in the math, science, and engineering disciplines necessary to make this nation fully competitive are not being produced. Technology is leaping forward, and this nation cannot afford to be left behind.

Tomorrow's business leaders, even more than today's, will be called on to function in international markets and in collaborative corporate cultures. Here in the United States, they will have to face the dilemma of being competitive internationally while maintaining production in this country. They will have to work to insure that the educational system produces people with the basic skills, the technical knowledge, and the values necessary to maintain this nation's competitiveness. Yesterday's business education will not prepare them. What kind of education will? Based on my own experience, I offer the following suggestions.

- *A fierce and continuing dedication to quality and a commitment to hard work are not passing fancies.* They are prerequisites for survival and success. We have to find ways to instill these values in today's students.
- *The ability to work with people, to find ways to unleash their creativity and best efforts, are requirements for business leaders.* Teamwork is replacing the one-man or one-woman show. Individual responsibility is alive and well, but the challenges to be faced demand cooperation, partnership, and common goals. Business schools can help to develop a new concept of managers as leaders and catalysts in encouraging creative ideas from their employees.
- *The development of an international outlook—being able to function well, in and with different cultures and different countries—is more essential than ever before in this era of global competition.* Knowing other languages and understanding other societies will help to prepare future business leaders to do their jobs in international companies and internationalized markets. This should include a special focus on the nations of the Pacific Rim. Students of business should be prepared for careers that take them beyond the boundaries of the United States, whether physically or psychologically.
- *The ability to change and learn and adapt is crucial.* The world is changing rapidly; new technologies develop quickly. No individual can come out of business school or any other school with a firm grasp of all these changes, and fortunately that is not necessary. We need individuals who can master change and have the good sense to separate what is significant from what is insignificant. We need people who are interested in asking the right questions rather than instantly knowing the right answers. We need people who can balance the interests of business with the interests of the nation and its citizens and who have breadth and scope and vision.

Business leaders of tomorrow should not be primarily concerned with financial manipulation, investment banking, and the highest starting salary. Their concerns should be to improve productivity, increase production, encourage education, and make a positive contribution to society. In business, there is nothing more satisfying than making money from the production of goods of superior quality.

Donald Petersen is chairman of the board of Ford Motor Company and a member of the University of Washington Graduate School of Business Administration Advisory Board.

Understanding and Using Expert Systems

by Bruce P. Olsen

Artificial intelligence, or AI for short, is leaving the research laboratory and entering the world of commerce, offering techniques that businesses will be able to incorporate into their operations, often to great advantage. The most common application is in the area of expert systems, computer systems designed to help solve problems in a given field.

Picture this scenario in the near future. A businessman is preparing to expand his successful small business. Using his microcomputer, he has created a product plan and sales projections and can show what impact the new product will have on his bottom line. He also knows exactly how much money he will need to finance his project, so he prints out his new plan and makes an appointment with the loan officer newly assigned to his account.

At the bank, the loan officer uses a computer terminal to access his account history and financial statements. She inquires about the product plan and enters some data into the terminal. The questions she asks concerning some of the assumptions he made in putting together the new product plan indicate that she has a better understanding of his business than he would have thought possible considering the short time she has been assigned to his account. After consulting the computer, she not only tells him what rate and terms the bank can offer on the new loan but even suggests restructuring some of his previous borrowings. The terms and conditions seem fair, so he leaves feeling that he has gotten the best service possible.

What the entrepreneur did not know is that many of the perceptive, industry-specific questions the lending officer asked were prompted by the computer, which compared his financial ratios not only to other firms in the industry, but also to other bank customers. The restructuring suggestion was based on his company's cash flow as well as recent changes in the bank's lending policies. The new lending officer, who did not know that much about the business specifically or the industry in general, was an experienced credit officer who was able to augment her own expertise with the knowledge of other credit professionals through the use of an expert system.

Although expert systems have been used in technical settings for several years, they are mostly stand-alone systems that run on specialized, expensive hardware. This is rapidly changing, however, as more products become available for microcomputers and large business systems. In the scenario above, for example, the expert system was simply embedded in a larger system to manage commercial loan documentation.

Structure

An expert is recognized as having greater knowledge and ability to solve a particular set of problems more effectively or efficiently than others. Expertise is often the result of gathered experience as opposed to deep knowledge (the understanding of basic theories, axioms, and principles) or book learning. That is not to say that experts do not possess deep knowledge, but that they often apply heuristic approaches to solving problems. They often use rules of thumb based on domain-dependent facts and a large network of knowledge they have constructed over time.

An expert system is a computer system that can solve or help solve complex, real world problems through the use of large bodies of knowledge that have been found to be useful in a specific problem domain. It should perform at or near the competence of a human expert and, in some limited cases, may even exceed human performance.

Several components make up an expert system (see figure to right). The knowledge base consists of facts, rules, and heuristics, whereas the inference engine contains the logic to draw conclusions and a strategy to navigate the contents of the knowledge base. A link to the outside, a user interface, typically requests facts from and presents conclusions to the user. Depending on the purpose of the system, other displays may also be present. For example, DELTA, an expert system for training diesel-electric locomotive mechanics, presents films from laser disks as part of its display capabilities. An explanation subsystem allows an expert system to explain to the user how it drew its conclusions or why it needs a particular piece of information. The final component is the knowledge acquisition subsystem whereby a knowledge engineer creates or modifies the knowledge base.

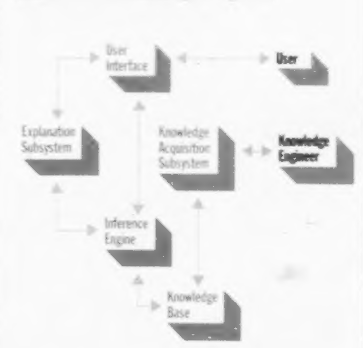
There are two fundamental control strategies for expert systems. Using backward chaining, a form of deductive reasoning, the inference engine reasons backward from a goal, supported by a set of facts or antecedent conclusions. If the known facts do not support the goal, it selects another set and continues the process until a goal is reached or no further conclusions can be drawn based on the known facts. In essence, it draws conclusions and then tries to justify them. This strategy is useful for identifying the characteristics of a problem (diagnosis) and selecting one of several alternative solutions (prescription). It is used by most expert systems.

Forward chaining, the other control strategy, is rather like inductive reasoning in that the inference engine determines which rules are true based on known facts. From there it reasons forward until it reaches a goal or runs out of possibilities. This strategy is useful for tasks such as project planning or computer system configuration.

Development

Expert systems are developed in much the same way as conventional data process-

Components of an Expert System



ing systems, but with one crucial difference: the approach is far more iterative and requires the almost continuous involvement of the expert. In the conventional systems development process, systems analysts consult the experts and users for requirements, go away with the programmers to build the system, and consult the experts again at testing and installation. The development of an expert system, however, frequently starts with a few key rules that are tested, refined, retested, and augmented. At least for small expert systems, it is often possible to begin with the root rule and to add rules in small groups to support the original one. In this way, a system can quickly grow to several hundred rules. It is not feasible for the knowledge engineer to just ask a few questions and then go build the system. A knowledge engineer needs good interviewing skills to supplement his or her technical skills, and the expert, in addition to an ability to articulate domain rules, must be able to commit the necessary time to the project.

The relationship between the knowledge engineer and the expert is obviously the nexus of expert system development. When solving problems, the expert appears, even to himself, to function intuitively. For experts, problem solving is usually an exercise in pattern recognition; the knowledge engineer extracts these patterns and devises the rules of the knowledge base. As with any systems development effort, careful selection of resources will minimize the probability of project failure. Prototyping and continuous testing of the system as it is developed and implemented also helps to ensure success and is far more important in expert system development than in conventional programming.

A wide variety of tools is available for building expert systems. Among the programming languages are PROLOG, which was selected by the Japanese for their Fifth Generation Computer project, and LISP. Powerful expert systems have also been built in more conventional programming languages such as FORTRAN and C.

The most significant development for the business environment is the so-called expert system shell, which consists of an inference engine and user interface and usually also includes explanation and knowledge acquisition subsystems. Wrapped together into one package, these provide useful creation and execution facilities for expert system development. One of the first such shells, EMYCIN, was extracted from the early medical expert system, MYCIN, which was built in the mid-seventies. Since then, shells have been developed for large computers and for microcomputers. Shells are to expert systems what electronic spreadsheets are to accounting and financial analysis. As expert system shells become more common, managers and professionals will construct their own expert systems to solve day-to-day problems, a significant advance in the use of information technology. At present, the installation of expert systems frequently requires costly hardware and long-term efforts from expensive talent.

Should Your Company Develop Expert Systems?

If you are not sure whether expert systems can be utilized by your business, an expert system can assist you in the decision-making process. These three computer screens illustrate an interaction between a simple expert system and a manager who wants advice on whether or not his or her company should develop an expert system. The shell software is M.1 by Teknowledge, Inc.

► SCREEN 1. Typing "go" causes the M.1 consultation to begin. M.1 then asks questions designed by the knowledge engineer to elicit the facts in the case. Its inference engine then evaluates the facts according to the rules in its knowledge base and draws its conclusions on that basis. Typing "why" causes M.1 to show the rule it is evaluating. This is one of a number of options that allows the user to see into the knowledge base.

► SCREEN 2. After answering the "why" command, M.1 repeats the question and the consultation continues. If the answers are not obvious, the "options" command allows the user to see all the possible answers. The knowledge engineer controls the allowable responses and how the question is asked. Good human engineering makes the consultation clear to the user.

► SCREEN 3. If there is not an obvious response to a question, M.1 can provide a menu of choices to aid the user. When the consultation is complete, M.1 shows its conclusions. In this case there is only one (to go ahead and install an expert system). The 100% in parentheses is a confidence factor. When implemented, confidence factors allow for probabilistic reasoning and represent how sure the computer is in its conclusions.

Applications

Successful expert systems have been developed in the domains of computers and electronics, science and engineering, medicine, geology, and mechanics. The early systems all related to some technically complex task. Although these kinds of tasks will continue to be conducive to future system development, expert system technology will increasingly move into managerial and professional environments. Expert system technology offers benefits in terms of improved productivity that will translate into real dollar savings or a competitive edge for many companies.

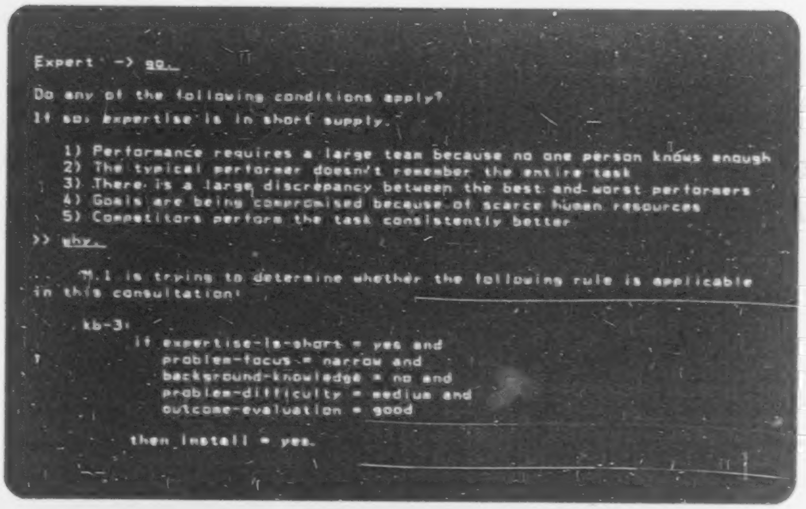
The use of expert systems to retain expertise as experts retire or otherwise move on is an obvious benefit many companies will take advantage of, but the collectivization of expertise for use by other experts and by managers will probably be more important. Expert or knowledge systems are also effective for instruction and training of new staff members so that more experienced staff may take on new responsibilities. Some insurance companies, for example, use expert systems to assist junior claims processors, thus freeing the time of supervisors and senior staff.

Planning and control functions can also benefit from this new technology. Expert systems are being developed to assist professionals in auditing and financial planning. For example, a major supplier of computerized credit reporting has an expert system watching usage patterns to detect fraud and other unauthorized access to its data banks.

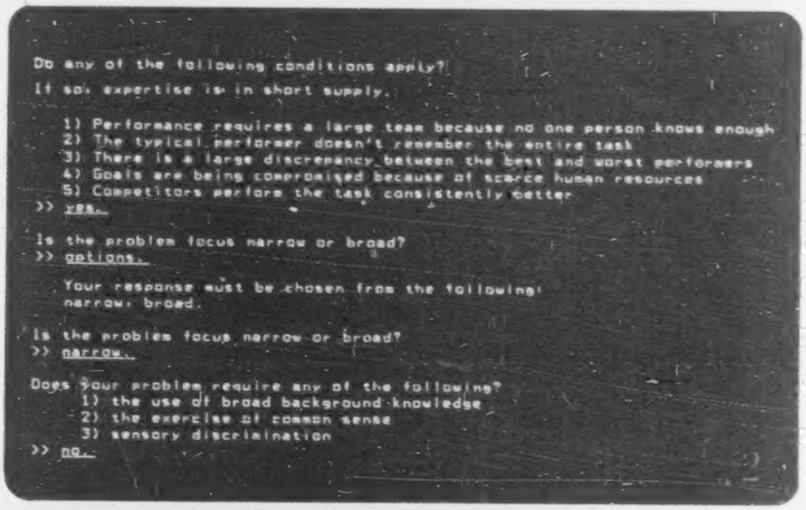
Project planning is another activity that will benefit. Consultants and CPA firms, for example, are beginning to use expert systems to plan their involvement with clients and determine the proper fees to charge. Traffic managers can use expert systems to decide what gets shipped when and on what carrier.

As in the opening scenario, money lenders will use expert systems to improve service to their customers. Banks are already using them for internal loan review and for documentation analysis and control. Expert systems have been proposed for general credit analysis and structuring as well.

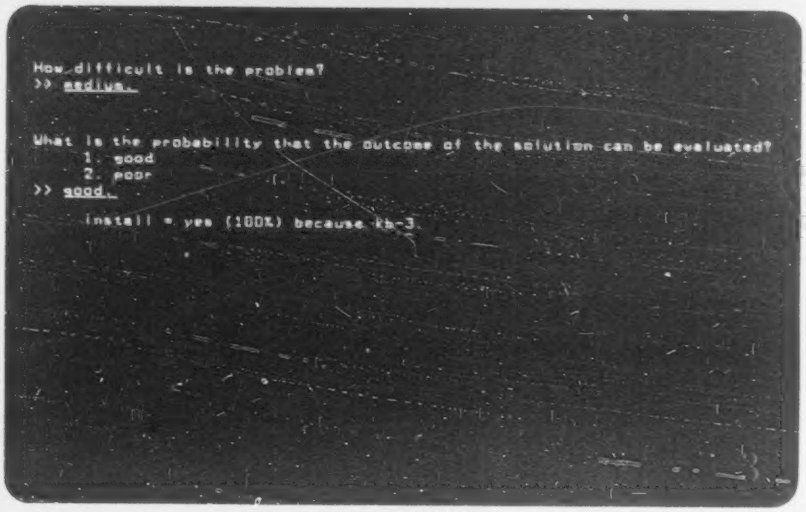
From these examples, it is easy to see that these techniques will not be restricted to any one segment of commerce. Forward-looking companies in all industries will be able to make effective use of expert systems. The most significant impact that expert systems will have on corporations, however, will be to give top-level management more direct



```
Expert  -> go.

Do any of the following conditions apply?
If so, expertise is in short supply.

    1) Performance requires a large team because no one person knows enough
    2) The typical performer doesn't remember the entire task
    3) There is a large discrepancy between the best and worst performers
    4) Goals are being compromised because of scarce human resources
    5) Competitors perform the task consistently better
>> why.

    M.1 is trying to determine whether the following rule is applicable
in this consultation:

    kb-3:
         if expertise-is-short = yes and
            problem-focus = narrow and
            background-knowledge = no and
            problem-difficulty = medium and
            outcome-evaluation = good

       then install = yes.
```



```
Do any of the following conditions apply?
If so, expertise is in short supply.

    1) Performance requires a large team because no one person knows enough
    2) The typical performer doesn't remember the entire task
    3) There is a large discrepancy between the best and worst performers
    4) Goals are being compromised because of scarce human resources
    5) Competitors perform the task consistently better
>> yes.

Is the problem focus narrow or broad?
>> options.

    Your response must be chosen from the following:
    narrow, broad.

Is the problem focus narrow or broad?
>> narrow.

Does your problem require any of the following?
       1) the use of broad background knowledge
       2) the exercise of common sense
       3) sensory discrimination
>> no.
```



```
How difficult is the problem?
>> medium.


What is the probability that the outcome of the solution can be evaluated?
       1. good
       2. poor
>> good.

       install = yes (100%) because kb-3.
```

access to all phases of operation of the company. Information reduction has heretofore been a primary task of middle management. The already stiff competition for middle management jobs will increase because of reduced numbers of available positions, since artificial intelligence is really white-collar automation raised to the management and professional ranks.

Problems and Risks

Barriers to implementation still remain. For whatever reason, many nonexperts are reluctant to trust the judgment of a computer, preferring to rely on human experts. Expert system development is also expensive and the paybacks are not yet clear. In addition, at the current state of the art, most expert systems are "brittle," meaning they break easily when presented with novel situations or when the general conditions under which they were designed to operate change. Expert systems must become more robust and less expensive in order to become fully integrated into business life.

The danger is to expect too much too soon. The computer industry has a well-recognized history of overly enthusiastic promises of capability. MYCIN, for example, was a highly promising expert system in medicine. It performed admirably in diagnosing bacteremic and meningitic conditions and prescribing appropriate levels of medication, but was slow, often difficult to use, and required the doctor to provide too many obvious answers. Tedium probably did the most to cause the system to fall into disuse.

Expert systems are close at hand and businesses want them. According to some surveys, more than half the Fortune 500 companies have artificial intelligence projects under way, and the number of AI start-up ventures has recently increased. Venture capitalists have bet on a bright commercial future, and companies that create and sell artificial intelligence products and services are going public and doing well on the stock market. IBM has introduced its expert system package and a major player in the knowledge engineering market will soon introduce a version of its mainframe product that will run on IBM's large-scale business computers. Although no technology provides ultimate answers, artificial intelligence techniques are becoming strategic weapons in the business arsenal.

Bruce Olsen is vice president and technical specialist in the Loan Review and Examination Department of Seafirst Bank.

REGION WATCH

Economic Developments in the Pacific Northwest

Buoyed by Boeing, other high-tech firms, and growing service sector businesses, the Puget Sound economy continues to expand, dominating the employment statistics for Washington. On a seasonally adjusted basis, employment in Washington increased by 36,000 from May 1985 to May 1986, while unemployment declined by 5,600. Employment in Oregon increased by 200 during the same period, while unemployment increased by 7,300. Idaho suffered a drop in employment of nearly 5,200 during the same period, while unemployment increased by 150. Outside of the Portland and Seattle metropolitan areas, the regional economy has not been in very good shape in the eighties. The employment statistics make the intraregional disparities painfully evident.

Perhaps the most dramatic event in the Pacific Northwest economy this summer was the strike by wood products workers at Weyerhaeuser. Weyerhaeuser asked the workers for a $4 per hour average cut in pay and benefits, as well as work rule changes designed to increase efficiency. The union representing the workers resisted these changes, not surprisingly, and a strike resulted. When the settlement came six weeks later, however, most of the changes the company asked for were approved by the union.

The relative brevity of the strike was remarkable considering that this was a dispute over compensation decreases. The damage to the regional economy due to the strike was minimal; Weyerhaeuser estimates that its workers lost $3.6 million in direct compensation during the strike. While the region breathes a collective sigh of relief, painful adjustments must be made by the workers who settled for less in take-home pay and benefits. How much the settlement will cost workers annually depends on the new labor agreement's profit-sharing element, which will give workers a greater incentive to make mills profitable.

TRADE DISPUTES WITH CANADA

The United States and Canada trade more with each other than each does with any other country. Despite a relatively open commerce across the common border, there are several outstanding trade disputes. Two that affect our region have been brought before the U.S. International Trade Commission (ITC).

The shake and shingle industry in Washington is comprised of about 200 mills, and, according to the Employment Security Department, it employs about 1,300 workers plus about 50 corporate officers. The ITC recently ruled that U.S. shake and shingle firms had been hurt by subsidized Canadian imports. On May 22 the ITC announced a countervailing tariff on Canadian shake and shingle products effective June 1, 1986. The tariff was set at 35 percent for a thirty-month period, followed by a smaller tariff thereafter.

The Red Cedar Shingle and Handsplit Shake Association, which represents both U.S. and Canadian producers, says that the U.S. product price increased by about $7 per square after the ruling, and that some U.S. mills reopened or expanded production. Data from Random Lengths Publications confirm an increase from the $38 to $40/square level typical of the first five months of 1986 to $47.75 in June and $45.75 in July. The average price for 1984 was $36.75 and for 1985 was $36.50. Thus, if the product prices of June and July are maintained, the impact of the tariff is clear: prices increased about 15 percent.

The total economic impact of the ruling may not be quite what the U.S. mill owners hoped. Stumpage prices in Washington have also increased, indicating that some of the benefit is going to forest land owners, not mill owners. Furthermore, the Canadian product price at the mill has decreased, along with the value of Canadian stumpage.

If the early summer price increase holds, it is likely to drive more builders away from shakes and shingles and toward alternative roofing and siding products. Shake roofs compete with relatively expensive roofing products such as tile, as well as with the more commonplace composition roofing. Shingles compete with a variety of natural and man-made siding products. With alternative products available, the consequence of the tariff may be a reduced market for shake and shingle products.

Since the shake and shingle industry is quite small, these mills' dispute with Canadian mills is of interest mainly because of the precedent it sets for a case involving larger stakes. U.S. lumber producers representing 70 percent of the nation's softwood production continue to press a similar illegal subsidy case against Canadian producers. A 27 percent tariff is requested in the petition, and a favorable preliminary ruling of harm to the U.S. industry has been made by the ITC. The Department of Commerce will decide by October 16 whether a subsidy exists and how big a countervailing tariff should be imposed.

As of mid-August, over 13 million visits had had been made to EXPO. When the gates close in mid-October, total attendance may reach the 20 million visit mark EXPO officials projected before the exposition opened. The EXPO Corporation and the many exhibitors and performing groups are to be commended for putting on an exposition surpassing some recent world fairs.

Very preliminary data also suggest that EXPO's impact on the Pacific Northwest is concentrated along the I-5 corridor, and may turn out to be smaller than anticipated. While traffic on I-5 in Whatcom County, Washington was up 30 percent in June 1986 compared to June 1985, visitor information center requests, ferry traffic, and state park attendance were up only 8 percent. The Pannell Kerr Forster Hotel Occupancy Survey shows May 1986 occupancy rates in Seattle up 4.2 percent over May 1985, and June 1986 rates up 11.4 percent over June 1985. Statewide, the increases were only 2.9 percent for May and 3.7 percent for June compared to those months in 1985.

In Oregon, visitor centers report increased counts of tourists ranging from 21 to 52 percent over previous records. Many of these centers are located along the main I-5 corridor Californians are using to get to and from EXPO. Tourism analysts in British Columbia report little increase in downtown Vancouver retail sales despite the large number of EXPO visitors passing through the city.

These indicators suggest that EXPO visitors are confining their visits to the EXPO site, getting to and from it as quickly as possible using I-5. The economic benefit to the tourism industry generally in Oregon, Washington, and British Columbia outside the EXPO site may be smaller than hoped for prior to EXPO's opening.

The U.S. Department of Commerce announced in July that it was discontinuing its department store sales series. The National Retail Merchants Association is seeking funds to restore the series. This series is not the only retail sales indicator available in the Pacific Northwest, but it allows comparisons with cities in other states. Washington's Department of Revenue provides retail sales data for counties and large cities, but Oregon and Idaho do not publish comparable data.

The paucity of good economic indicators is always a problem for regional analysts, and the situation is getting steadily worse. The Seattle/Everett and Portland area Consumer Price Indexes will be available only twice a year instead of six times starting in January. In addition, the flash report of GNP is no longer provided by the Department of Commerce. Planned improvements to the Current Population Survey have also been abandoned due to insufficient funding.

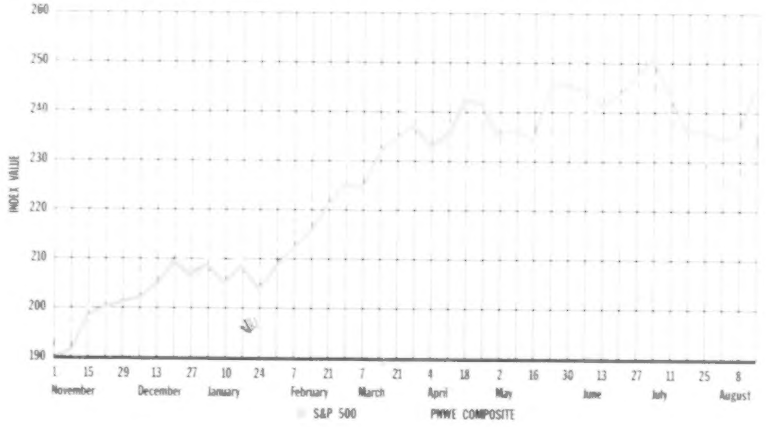
Many economists, including Janet Norwood, Commissioner of the Bureau of Labor Statistics, have expressed concern with the worsening situation. Budget pressures and restrictions on the imposition of paperwork costs on businesses have made it difficult to implement planned improvements in federal statistics. In other instances, difficult choices are being made between extent of coverage or frequency of issuance and the quality of the data. The Gramm Rudman budget limits will no doubt add to the pressures on statistical programs. Good economic analysis is hampered by the scarcity of data; this is a cost that needs to be considered along with budgets and paperwork burdens.

According to Crop and Livestock Reporting Services in Idaho, Oregon, and Washington, the value of agricultural production was down in 1985 by 12 percent in Washington, 3 percent in Oregon, and 4 percent in Idaho, compared to 1984 (see indicators section). Declines in wheat prices, frosts that reduced fruit yields, and a variety of other factors contributed to this result. However, the number of operating farms in the region remains unchanged, and farm personal income as reported by the Bureau of Economic Analysis increased in Washington and Oregon, but fell in Idaho. All in all, 1985 was not a disastrous year on the farm in the Pacific Northwest, but it certainly was not a very good year either.

Fewer natural disasters have plagued the region this year. However, wheat prices remain a problem, and much of last year's crop remains to be disposed of. The farm economy in the Pacific Northwest is relatively stable compared to other regions of the country, but faces significant marketing problems.

The Pacific Northwest Executive Stock Index

S&P 500 and the PNWE Index



Index Values*

LAST FRIDAY OF	PNWE COMPOSITE	SMALL FIRMS	LARGE FIRMS	MANUFACTURING	TECHNOLOGY	UTILITIES	RETAIL, FINANCE & OTHER
NOV 1985	204.76	198.23	204.34	203.92	201.18	197.17	211.09
DEC 1985	206.66	202.44	205.40	204.55	211.30	207.93	208.35
JAN 1986	213.83	214.68	211.93	207.93	211.93	217.63	221.00
FEB 1986	230.70	241.25	232.39	229.23	221.00	226.49	237.45
MAR 1986	239.35	250.53	238.72	242.72	207.11	234.51	247.36
APR 1986	238.30	273.93	237.87	241.46	226.23	235.14	239.77
MAY 1986	241.45	283.42	241.88	245.89	232.74	233.24	242.30
JUNE 1986	245.10	282.08	248.63	250.74	218.67	247.14	243.57
JULY 1986	230.07	280.99	234.04	233.16	196.69	260.12	219.14

*All PNWE indexes set equal to the S&P 500 index of 210.88 on January 3, 1986

Taxes—How We Got To Where We Are

Taxes are a perennial subject of political debate. Who should pay, at what rate, and based on what indicators (income, wealth, consumption) and what principles (ability to pay, benefits received)? A review of the history of taxation in Washington and Oregon reveals a number of insights as to how our differing state tax systems were created.

Washington

Washington, like many other states, started out with a property tax system specified in the state constitution. Both real and personal property were taxable. Property was assessed by county assessors, and the local units of government and the state both levied taxes based on those assessments. The constitution specified that all property was to be taxed at a uniform rate, a provision that later became very controversial because it precluded imposition of a graduated income tax (income being classified as property by the court).

The first critical examination of Washington's tax system of which we are aware was a conference on the state's tax system in 1914 at the University of Washington. Several speakers mentioned the uniformity restriction imposed by the state constitution and the rapidly increasing millage rates that were creating problems for many property owners. University President Henry Landes said, "In most counties in Washington during the past year the increase for the individual property holder has ranged from 25 to 50 percent." An alternative interpretation was offered by H.C. Gill, the mayor of Seattle: "We are not suffering . . . so much from a defective method of taxation, or indeed legislation, as we are from the extravagance of officials."

In 1921, a Special Tax Investigation Committee was appointed by the governor. This committee focused mostly on improving the property tax system. One suggestion was for a permanent tax commission to assure uniform, equalized property assessment practices. In addition, the advent of the motor vehicle suggested a new revenue source. A fuel tax, as well as license or other fees, could be levied to finance roads in lieu of increasing property taxes. The problem of taxing intangible property was discussed; even in those days shifts of wealth to intangible and therefore nontaxable forms was becoming noticeable.

In 1925, a permanent Tax Commission (now Department of Revenue) was established to oversee the revenue collection and assessment process statewide. The first biennial report of the Tax Commission, published in 1926, makes it clear that the commission supported fundamental revision of the tax system:

> These constitutional requirements, inhibitions and limitations, have imposed upon the state the taxation system commonly known as the "general property tax," under which all property, real and personal, is required to be assessed and taxed at equal and uniform rates, regardless of its class, character, utilization or productivity.... No other recognized form or scheme of taxation has been so universally condemned by courts, political economists and tax administrative officials as the general property tax.

In 1929, another Special Tax Investigation Committee was appointed by the governor. The discussions of this committee broadened to include consideration of additional types of taxes including personal and corporate income taxes, retail sales taxes, and severance or yield taxes. Their discussion of a retail sales tax placed the committee on the forefront of public finance discussions in that era. Only one state had adopted a retail sales tax as of 1930, and the committee could only identify two state tax commissions that had even considered a retail sales tax.

This committee's discussion of a perceived relationship between the income and sales taxes is especially interesting. The general principle that each citizen should contribute directly to the government's tax receipts in proportion to ability to pay was noted. Only two taxes were thought capable of achieving this: the income and retail sales taxes. An income tax with no exemptions was thought preferable to the sales tax, but if exemptions were allowed in the income tax, then the committee members felt that a retail sales tax would be preferable. The reason given was that the exemptions in the income tax would greatly violate the ability to pay principle.

This is an intriguing discussion because present day analysts generally indicate that the income and sales taxes tap substantially different tax bases. Not all income is spent, and not all of that spent goes for items subject to the retail sales tax. Yet the leaders of the thirties may have felt that these two tax bases were close substitutes, and that the sales tax was superior to an income tax package with many exemptions.

Most of this Special Committee's discussion, however, still centered around problems with the property tax. To the list inherited from earlier commissions and studies, this committee added the note that many exemptions had been enacted into the property tax law, making its burden very unequal and inequitable. The committee recommended enactment of a graduated income tax without exemptions, an excise or net income tax on corporations, and reservation of the property tax for use by local governmental units within the state.

Shortly after the report of this committee, a series of dramatic events occurred that fundamentally reshaped the tax system of Washington. The whole country was in a depression, with many property taxpayers in delinquency. At the same time, state governments faced increasing demands for welfare services. Successive committees and commissions in Washington had concluded that the state relied too much on the property tax, and that the constitutional clause requiring a uniform tax rate on all property forced taxation without regard to ability to pay. The obvious response was to create a new revenue source based on something other than property.

Washington was among the states that tried to enact an income tax in the early thirties. The legislature passed a graduated income tax law in 1931. Governor Clarence Martin promptly vetoed the bill, stating that it would cost too much to set up a bureaucracy to administer the law. Following the veto, an initiative calling for a graduated income tax was placed on the general election ballot in 1932 and was passed by the voters. This initiative was promptly challenged in court. The state supreme court held that it was a tax on property, and that the graduated rates violated the constitutional constraint requiring uniform rates on each class of property.

By this time the financial stress suffered by property owners was severe, and an initiative passed in 1932 restricting state and local property tax levies to 40 mills per thousand dollars of assessed valuation and restricting the state levy to 5 mills. Local governmental units, especially schools, lost a great deal of revenue as a result, and short school sessions were predicted. The state also had a revenue problem since its property tax base had been lowered and the state income tax had been declared unconstitutional.

Two crucial sessions of the legislature in 1933 resolved these problems by making several fateful decisions. In the regular session, the legislators agreed to assume part of the responsibility for funding the school system, thereby making the state's revenue needs even greater. To gather additional revenue in a way that would not violate the constitution or the property tax limits approved by the voters, a new tax source was needed. Accordingly, a two-year, emergency business activity tax (in essence a turnover tax) on manufacturing and retail sales was enacted. A subsequent special session in 1933 expanded this tax to embrace certain service occupations. Litigation quickly established that the legislature had succeeded in enacting a tax based on the privilege of doing business rather than on property and, on this construction, the state supreme court upheld the new tax. Thus the forerunner of our current business and occupation (B&O) tax was born.

The 1934 Tax Commission report characterizes this tax as an "emergency" and "temporary" measure, due to expire in 1935. Under the strained circumstances that the 1933 legislature perceived, no other alternative was apparent to solve the state's revenue problem. This new tax did the job of raising considerable amounts of revenue without much complaint from the public.

The voters raised the ante once more when, in 1934, they passed a second property tax restriction initiative that lowered the state levy to 2 mills. In response, the 1935 legislature made additional modifications to the revenue system, creating essentially the system we utilize to this day. With yet more of its property tax base removed, the legislature made the B&O tax permanent and added on a 2 percent retail sales tax and several selective sales taxes (cigarettes, liquor, fuel oil, and realty conveyances).

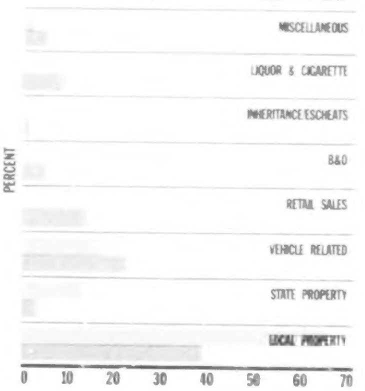
The idea of a graduated income tax was not totally forgotten, however. Constitutional amendments calling for a graduated income tax were placed on the ballot in 1934, 1936, and 1938. In each case, they were rejected by the voters.

Thus, a combination of initiatives from the people restricting the property tax levy, rulings from the state supreme court invalidating a graduated income tax in the absence of a constitutional amendment, and a reluctance of the people to pass such an amendment left the state in a terrible bind. It responded by taxing in the only way left to it—excise taxes. It did so only in an atmosphere of crisis, with demands for welfare services expanding and willingness to be taxed on property declining as a result of the depression in the thirties.

The impact of these changes on the sources of tax receipts was dramatic (see Figure 1). Property tax receipts as a proportion of total state and local tax receipts fell from 79.4 percent in 1931 to 42.0 percent in 1939, with total tax collections at the beginning and end of the decade virtually the same. The business and occupation tax accounted for 5.5 percent of revenues in 1939, the retail sales tax contributed 14.4 percent, and the state liquor store profits came to 8.9 percent. Revenues from motor vehicle license fees and gasoline taxes also increased over the decade.

In the opinion of Alfred E. Harsch, a University of Washington professor from 1930 to 1967 who helped draft tax legislation during the thirties, there has been little fundamental change in the tax code in Washington since that decade. As he wrote in a 1978 article, "For almost 50 years there has been no real reform in Washington's taxing system: the 'take' has just gotten bigger and bigger in the same old way."

Figure 1: Sources of State and Local Government Revenue—Washington



While few new taxes have been imposed since the thirties, many rate changes have been enacted. These changes in tax rates have made the property tax less important as a revenue source, and the retail sales and B&O taxes more important. Efforts to improve equalization of property tax assessments across the many counties have continued; this is a long-standing problem the first Tax Commission was mandated to fix. Timber taxing changed with the imposition of a timber excise tax in 1972, accompanied by reductions in the timber property tax. The inheritance tax was repealed by the voters in the general election of 1981. In addition, the voters of the state turned down three more income tax proposals in 1942, 1970, and 1973.

Oregon

In the neighboring state of Oregon, the situation started out much the same with the state limited to a property tax with uniform rates. As early as 1872, dissatisfaction with the tax base was noted in an address by Governor Grover to the legislature:

> While this condition of things would make but little difference with county finances, it greatly diminishes the funds which should come into the state treasury. With five times as many insane to support and four times as many state prisoners to keep as we had ten years ago, with other expenses incidentally greater as we increase in population, how can the state be kept out of debt even on account of current expenditures, without sound assessments according to the increase of property?

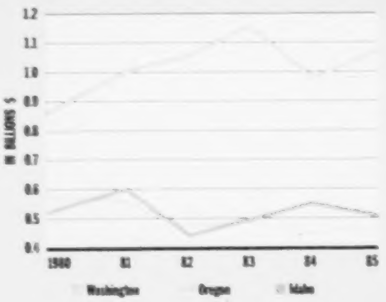
Twenty years later, the problems with the property tax system had not been corrected so a special legislative committee was formed to study the problem in 1891. This committee recommended that most property tax exemptions be eliminated, that no deductions for indebtedness be allowed, that the mortgage tax be repealed, and that all property be listed for taxation on a single day of the year.

Some of Oregon's citizens had advocated adding an income tax to the state tax system since the turn of the century. Accomplishing this change proved quite difficult, however. Income tax amendments were rejected by Oregon's voters in 1912, 1914, and 1922. In 1923, an income tax law was enacted by the legislature and approved by the voters, only to be repealed one year later. Another attempt by the legislature in 1927 was also defeated at the ballot box.

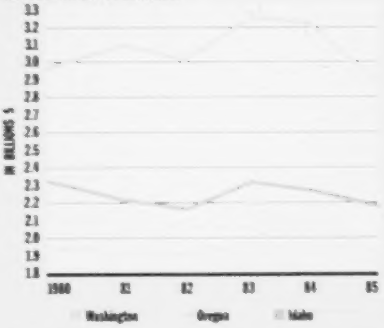
(continued on page 14)

Pacific Northwest Agricultural Production Indicators

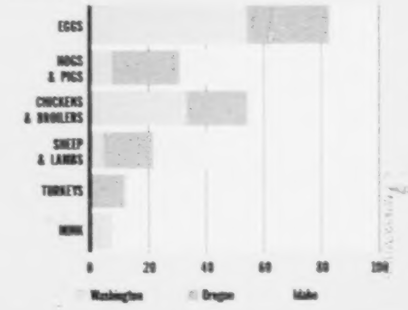
FARM PERSONAL INCOME



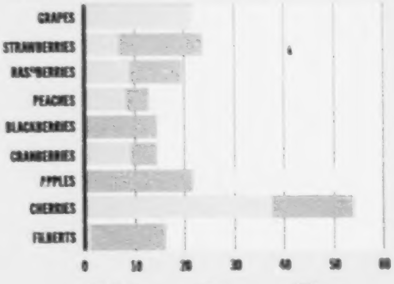
AGRICULTURAL PRODUCTION



SELECTED LIVESTOCK,[8] 1985
in millions $



SELECTED FRUIT CROPS,[8] 1985
in millions $



NUMBER OF FARMS[2]
in thousands

YEAR	WA	OR	ID
1960	56.0	47.0	36.3
1965	48.5	43.0	31.2
1970	41.0	34.5	28.5
1975	34.0	30.0	24.1
1980	38.0	35.0	24.4
1981	39.5	36.5	24.1
1982	39.0	37.0	24.2
1983	38.0	37.5	24.4
1984	38.0	37.0	24.6
1985	38.0	37.0	24.6

TOTAL VALUE OF PRODUCTION
in millions $

YEAR	WA	OR	ID
1960	612	450	516
1965	703	495	556
1970	892	614	723
1975	1,994	1,179	1,442
1980	2,948	1,934	2,322
1981	3,095	1,923	2,213
1982	2,980	1,885	2,180
1983	3,252	1,942	2,323
1984	3,229	1,968	2,269
1985	2,877	1,918	2,189

FARM PERSONAL INCOME[3]
in millions $

YEAR	WA	OR	ID
1960	268	185	159
1965	288	186	238
1970	356	227	274
1975	866	390	434
1980	858	540	518
1981	1,089	542	605
1982	1,056	471	417
1983	1,153	493	492
1984	972	446	528
1985	1,085	483	492

TOTAL VALUE OF LIVESTOCK & LIVESTOCK PRODUCTS
in millions $

YEAR	WA	OR	ID
1960	224	191	165
1965	235	186	175
1970	306	254	269
1975	454	321	386
1980	811	565	759
1981	892	605	775
1982	892	568	730
1983	908	564	735
1984	930	570	728
1985	882	558	758

VALUE OF CATTLE & CALVES
in millions $

YEAR	WA	OR	ID
1960	68	82	87
1965	76	92	100
1970	113	141	168
1975	132	155	231
1980	311	312	483
1981	321	323	450
1982	335	280	400
1983	317	273	396
1984	340	277	405
1985	288	265	410

VALUE OF MILK
in millions $

YEAR	WA	OR	ID
1960	85	53	57
1965	87	47	52
1970	125	59	73
1975	213	92	127
1980	383	158	240
1981	417	173	280
1982	440	184	290
1983	476	194	298
1984	466	186	281
1985	476	189	293

TOTAL VALUE[6] OF FIELD CROPS
in millions $

YEAR	WA	OR	ID
1960	251	152	343
1965	295	154	365
1970	378	171	436
1975	1,077	533	1,017
1980	1,432	743	1,511
1981	1,413	671	1,371
1982	1,356	696	1,400
1983	1,485	722	1,521
1984	1,509	725	1,472
1985	1,209	666	1,381

VALUE & PRODUCTION OF WHEAT
in thousands of bushels and millions $

	WA		OR		ID	
YEAR	Bushels	Value	Bushels	Value	Bushels	Value
1960	65,102	117	26,626	48	34,018	57
1965	90,828	121	28,399	39	47,973	62
1970	92,800	137	26,717	39	41,582	58
1975	147,880	553	58,040	229	63,220	215
1980	160,220	638	77,400	308	96,030	351
1981	168,350	660	74,330	285	89,780	325
1982	138,880	561	63,500	255	94,200	357
1983	172,570	637	65,570	242	91,710	318
1984	160,350	553	68,945	239	81,400	268
1985	128,250	436	56,040	191	72,030	235

VALUE OF SUGAR BEETS
in millions $

YEAR	ID
1960	20
1965	37
1970	48
1975	73
1980	152
1981	122
1982	118
1983	141
1984	123
1985	NA

TOTAL VALUE OF FRUIT & NUT CROPS
in millions $

YEAR	WA	OR	ID
1960	87	42	5
1965	98	57	8
1970	122	61	7
1975	209	76	13
1980	370	126	27
1981	438	129	26
1982	389	102	30
1983	502	134	27
1984	461	127	29
1985	410	167	38

VALUE & PRODUCTION OF WA APPLES
in millions $

YEAR	1000 Tons	Value
1960	485	53
1965	618	69
1970	696	70
1975	1,100	134
1980	1,503	248
1981	1,380	302
1982	1,308	253
1983	1,528	349
1984	1,475	336
1985	1,050	274

VALUE OF PEARS
in millions $

YEAR	WA	OR
1960	8	10
1965	10	18
1970	19	11
1975	30	24
1980	55	38
1981	55	36
1982	52	37
1983	49	33
1984	55	40
1985	64	53

VALUE OF CHERRIES
in millions $

YEAR	WA
1960	5
1965	1
1970	10
1975	20
1980	30
1981	41
1982	38
1983	56
1984	41
1985	37

VALUE OF BERRIES
in millions $

YEAR	OR	WA
1960	16	NA
1965	21	NA
1970	22	NA
1975	19	13
1980	31	17
1981	35	22
1982	48	29
1983	53	27
1984	44	22
1985	51	30

GOVERNMENT PAYMENTS[4]
In millions $

YEAR	WA	OR	ID
1960	10	9	13
1965	40	24	29
1970	58	23	48
1975	7	5	9
1980	9	6	8
1981	37	19	30
1982	77	31	52
1983	159	67	136
1984	171	76	132
1985	155	71	122

AVERAGE NET INCOME[3, 5] PER FARM
In $

YEAR	WA	OR	ID
1960	4.786	3.936	4.380
1965	5.938	4.326	7.628
1970	8.683	6.580	9.614
1975	25.471	13.000	18.008
1980	22.579	15.429	21.230
1981	25.544	14.849	25.104
1982	27.076	12.730	17.231
1983	30.342	13.147	20.164
1984	25.579	12.054	21.463
1985	28.553	13.054	20.041

VALUE OF FARM ASSETS[4] including households
In millions $

YEAR	WA	OR	ID
1960	NA	NA	NA
1965	NA	NA	NA
1970	NA	NA	NA
1975	7.763	6.438	7.286
1980	15.660	13.355	13.917
1981	18.255	14.666	14.927
1982	18.928	14.793	15.353
1983	19.183	14.391	14.600
1984	19.778	14.277	14.736
1985	NA	NA	NA

RATIO OF[4] PRICES RECEIVED TO PRICES PAID
United States
1977 = 100

YEAR	
1960	118
1965	115
1970	109
1975	113
1980	97
1981	93
1982	85
1983	84
1984	86
1985	79

AVERAGE VALUE OF FARM LAND AND BUILDINGS
price per acre

YEAR	WA	OR	ID
1960	NA	NA	NA
1965	NA	NA	NA
1970	NA	NA	NA
1975	NA	NA	NA
1980	736	587	689
1981	877	668	774
1982	922	705	839
1983	933	705	814
1964	961	698	814
1965	923	579	749

TOTAL VALUE OF VEGETABLE CROPS
In millions $

YEAR	WA	OR	ID
1960	25	28	3
1965	41	38	8
1970	42	41	11
1975	94	93	26
1980	118	126	25
1981	137	131	44
1982	145	97	27
1983	141	130	40
1964	146	141	30
1965	158	109	26

VALUE OF SELECTED VEGETABLES FOR 1985
In millions $

	WA	OR
Onions	15	28
Sweet Corn	27	28
Asparagus	42	NA
Green Peas	24	9
Snap Beans	1	22
Carrots	11	3
Cauliflower	NA	8
Mushrooms	5	NA
Broccoli	NA	5

VALUE OF POTATOES
In millions $

YEAR	WA	OR	ID
1960	19	19	79
1965	29	18	119
1970	51	27	144
1975	152	78	294
1980	183	91	451
1981	209	97	402
1982	198	82	321
1983	230	96	447
1984	293	112	420
1985	206	97	323

VALUE OF BARLEY
In millions $

YEAR	WA	OR	ID
1960	21	17	15
1965	16	18	24
1970	20	19	40
1975	58	23	97
1980	94	30	172
1981	110	31	171
1982	110	34	191
1983	140	43	185
1984	143	41	219
1985	116	40	173

VALUE OF HOPS
In millions $

YEAR	WA	OR	ID
1960	11	3	3
1965	16	3	3
1970	17	4	3
1975	31	8	5
1980	66	17	8
1981	89	18	9
1982	93	26	16
1983	92	22	16
1984	87	15	16
1985	66	17	15

VALUE OF NURSERY/ GRNHOUSE PRODUCTS
In millions $

YEAR	WA	OR[7]
1960	NA	16
1965	NA	20
1970	NA	29
1975	NA	50
1980	90	133
1981	97	138
1982	96	133
1983	100	150
1984	100	159
1985	95	172

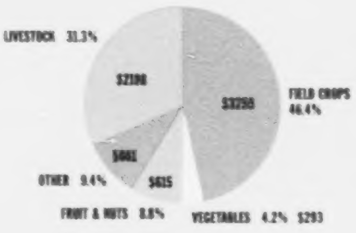
VALUE OF OTHER FIELD CROPS, 1985
In millions $

	WA	OR	ID
Hay	206	230	257
Corn (Grain)	57	18	26
Corn (Silage)	26	NA	NA
Seed & Grass	NA	121	NA
Mint	27	26	7
Dry Beans	14	NA	41
Oats	3	13	3
Dry Peas	13	NA	NA
Lentils	18	NA	NA

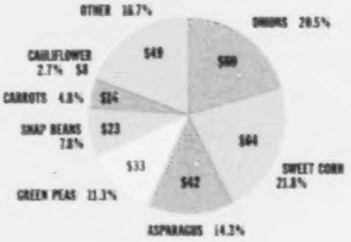
VALUE OF SELECTED FRUIT & NUT CROPS, 1985
In millions $

	WA	OR
Grapes	21	NA
Strawberries	7	16
Raspberries	9	10
Peaches	8	4
Blackberries	NA	14
Filberts	0	16
Cranberries	9	5
Prunes	2	4
Blueberries	3	3

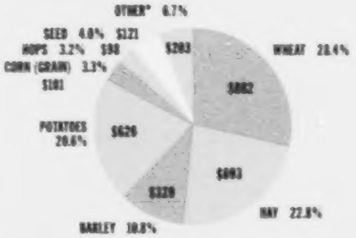
AGRICULTURAL PRODUCTION, 1985
Pacific Northwest, in millions $



VEGETABLE PRODUCTION, 1985
Pacific Northwest, in millions $



FIELD CROPS, 1985
Pacific Northwest, in millions $



*Does not include Idaho sugar beets

NOTES

1. Unless otherwise noted, figures are those of the Crop and Livestock Reporting Services of Washington, Oregon, and Idaho. We thank the personnel of these offices for their efforts to provide us with data. Values of production numbers are listed in millions of dollars. Readers should be aware that some numbers are subject to revision. The term "NA" means that these numbers were not available.

2. In 1975, the definition of a farm was changed to include places with agricultural sales of $1,000 or more.

3. Bureau of Economic Analysis, U.S. Department of Commerce.

4. U.S. Department of Agriculture.

5. Revised to include all farm income and farms.

6. The total value of Idaho's field crops in 1985 is estimated by assuming that the value of beet production in 1985 is $123 million.

7. Department of Agricultural and Resource Economics, Oregon State University. Figures prior to 1980 do not include the value of bulbs, turf, and miscellaneous specialty products.

8. Value of production not available for all states.

(continued from page 11)

In both 1926 and 1928, initiatives calling for an income tax were defeated. Thus, on seven occasions, the voters turned down income tax laws in Oregon. These proposed laws included various combinations of flat and graduated rates with funds allocated to property tax relief, specified programs, or the general fund. The voters of Oregon seemed adamantly opposed to any form of income tax.

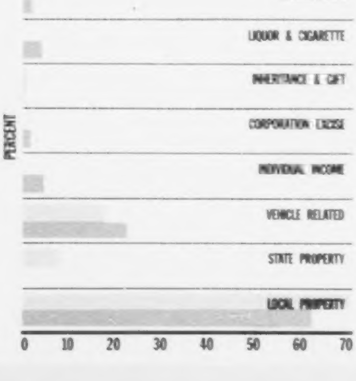
As in Washington, the late twenties and early thirties were a time of financial crisis. Property tax relief was on the public agenda, and an attempt to tax the stock of national banks had been declared illegal by a federal court. The twin problems of reducing property tax levies and replacing the bank stock tax revenues were resolved by the legislature in 1929. Yet another income tax law was enacted and submitted to the voters. This law featured graduated rates and its revenues were dedicated to property tax relief. Approval was granted in the 1930 general election. In addition, a corporation excise tax was enacted in 1930.

Both of these taxes were used to reduce the property tax levy by the state. Since the income tax revenues could only be used to reduce property tax levies, the legislature had to increase its property tax levy to accommodate its desired spending level, and then offset the levy with income tax receipts, thereby keeping actual property tax collections to a minimum. This cumbersome procedure persisted until 1953.

State property tax levies diminished from 8.9 percent of total state and local tax receipts in 1929 to zero percent in 1939 (see Figure 2). Local property taxes declined from 69.9 percent of the total in 1929 to 63.2 percent in 1939. In their place, the individual income and corporate excise taxes emerged, and vehicle-related revenues and "sin tax" receipts increased.

Since the thirties, little fundamental change has occurred in Oregon's tax system. In 1953, a major overhaul of the income tax law was made that revised rates and placed revenues into the general fund instead of the property tax relief fund. Sales tax proposals have been turned down by the voters on seven occasions, most recently in 1985. A flirtation with a unitary tax on business profits ended in 1984 as the legislature confronted the potential threat of new high-tech plants going elsewhere. A 1984 study by the University of Oregon concludes: ". . . Oregonians continue to depend on a 1930s finance system to pay for governmental services."

Figure 2: Sources of State and Local Government Revenue—Oregon



An Assessment of History's Lessons

Oregon and Washington were not alone in their tax revisions in the mid-thirties. Professor James Maxwell, a renowned student of state and local public finance, indicates that many states revised their tax systems during the depression and implemented a retail sales tax, an income tax, or both. Maxwell notes:

> But in those dreary years the failing yield of income tax was distressing to state governments. The unfamiliar and unpopular retail sales tax, however, did bring in the revenue, and a trend started which has not yet lost its force.

In addition to general retail sales taxes, several states enacted specific sales or excise taxes, or rate increases on alcoholic beverages, tobacco products, and motor fuels according to Maxwell. Thus, Washington's choices in these years seem to have been fairly typical of choices made by other states—with the exception of the B&O tax—while Oregon was one of a small number of states that turned to a graduated income tax and stuck with it despite yield problems during the depression.

Oregon went down a very different road than Washington when faced with a revenue shortfall and resistance from property taxpayers in the late twenties and early thirties. Why a different course was chosen is not entirely clear. In both states, the willingness of voters to approve an income tax varied over time. Washington's leaders may just have offered the wrong choice in 1932, when the voters approved the idea of a graduated income tax only to have it declared unconstitutional. Had that proposal been drafted as a constitutional amendment, Washington might have ended up with a system more closely resembling Oregon's.

Legislative analysts have recently pointed to the growing proportion of income in the form of intangibles that escapes Washington's tax bases. Six decades after this issue was first pointed out by the 1922 Special Tax Investigation Committee, we still have not found an acceptable resolution.

Although tax analysts currently draw a distinction between the sales tax base and the income tax base, tax commissioners in 1930 saw them as close substitutes. Furthermore, they ranked the sales tax ahead of an income tax riddled with exemptions. Citizens of that day had experienced the erosion of a tax base by exemptions. This point is worth pondering in the context of present day tax debates.

Another impressive feature of this history of our tax systems is the long period of time required to make fundamental changes. A period of sixty years passed by from the 1870s to the Great Depression. During those years, numerous scholars and commissions advocated changing from a state tax system based almost exclusively on property taxes to one more closely linked to taxpayers' ability to pay, and less riddled by exemptions and deductions. Rational argument did not provide sufficient political momentum to achieve reforms, however. It took the personal and governmental financial crises brought about by the Great Depression to achieve broader-based tax systems in Oregon and Washington.

This is a somber thought as we again face the question of tax reform. Each of the Pacific Northwest states faces increasing demands for state government services, yet each has difficulty raising sufficient revenue to meet them. Many of these demands arise from social problems similar to those that confronted the governor of Oregon in 1872 when he lamented the increase in the number of lunatics and prisoners. Must history repeat itself? Are our political systems capable of achieving reforms in the absence of extreme economic strains?

Additional impetus for tax reform may arise from the national tax code changes currently pending. The final bill from the House/Senate Conference Committee eliminated the deduction for state sales taxes but retained the deduction for other types of state taxes. This feature may add to arguments for reform of Washington's tax system while increasing Oregon's degree of comfort with its system.

The Future of the Northwest Forest Products Industry

by Darius M. Adams

The forest products industry of the Pacific Northwest is in the midst of a major reorganization and retrenchment. The fundamental cause is the region's inability to maintain its competitive position in domestic and offshore markets relative to other U.S., Canadian, and foreign suppliers. Symptoms of declining competitiveness—rising costs and declining market share—were evident even in the boom years of the seventies. The collapse of prices and operating margins during the 1980–82 recession and continued price and margin weakness have made the problem critical. As a result, major changes are underway in the industry's cost structure, production capacity, ownership composition, and market orientation. The forces that catalyzed these shifts have not abated and will continue to influence the industry through the remainder of this decade.

The Boom and Recession

A brief review of developments during the boom years of the seventies and the recession of the early eighties will provide some perspective on the nature of the industry's current problems and its responses. During the decade of the seventies, the following conditions developed in the forest products industry.

- Economic and demographic conditions yielded strong growth in domestic solid wood and fiber products markets. Domestic consumption reached post-World War II peaks in 1978–79. Offshore markets for logs and fiber products grew rapidly, particularly in Japan.
- Capacity utilization in solid wood products was high, leading to record growth in product and timber prices and strong profit performance.
- The Pacific Northwest encountered significant problems of rising costs relative to its major competitors in Canada and the South, and by the mid-seventies had become the marginal North American producer on a cost basis. Thus, despite strong demand, the region's market share in solid wood products declined. Between 1970 and 1980, the region's share of total U.S. new supply of lumber (production plus imports) dropped from 30 percent to 25 percent. In regional markets, the Pacific Northwest's share dropped from roughly 25 percent to 15 percent in the large Midwest market and from 40 percent to 35 percent in the West.
- High inflation and low (at times negative) real interest rates during the seventies encouraged capital investments in plant and forest land ownership and management.
- Mill production in solid wood products focused on increasing the output of commodity products.

At the end of the seventies, all indications were that strong market conditions would continue into the eighties. Demographic trends suggested that household formations, the basis for new housing construction activity, would reach all-time peaks in the early eighties. Though a cyclical downturn in the early eighties was generally anticipated by the industry, the economic events that unfolded after October 1979 caught the industry unprepared.

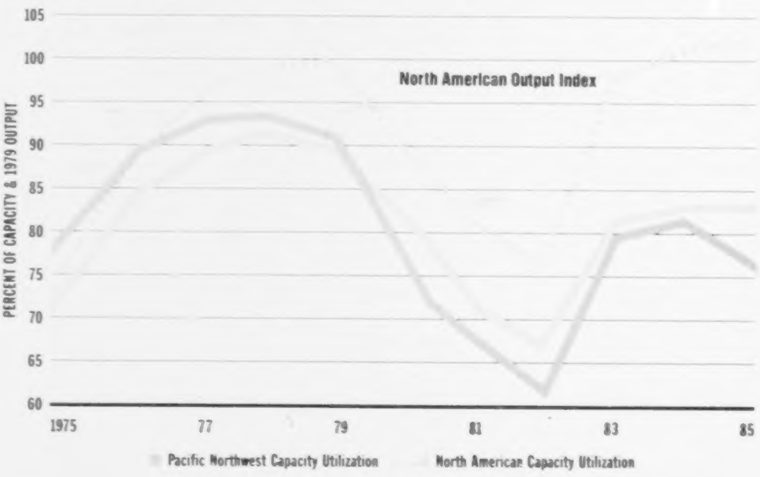
- Inflation rates dropped sharply and remained low. Real interest rates rose dramatically and remained high, curtailing housing activity. The recessionary trough was longer and deeper than those previously experienced.
- The exchange value of the U.S. dollar grew markedly relative to foreign currencies until early 1985, adding materially to the competitive advantage of Canadian producers in U.S. markets and limiting the competitive position of U.S. producers in offshore markets.
- Log export markets collapsed during the early eighties due to a coincident drop in Japanese housing activity.

The combination of these developments sharply reduced demand and led to production, price, and margin declines unprecedented in the post-World War II period. Mill closures were numerous. Employment in the Oregon and Washington forest products sector plummeted, falling by more than 24 percent (some 39,000 jobs) between 1978 and 1982.

Market Conditions

The recovery beginning in 1983 has brought both good and bad news for the region's forest products industry. On the positive side, recent sharp increases in housing activity have markedly improved demand for solid wood products. With the

Figure 1: Lumber Capacity Utilization and Output Index (1979=100)



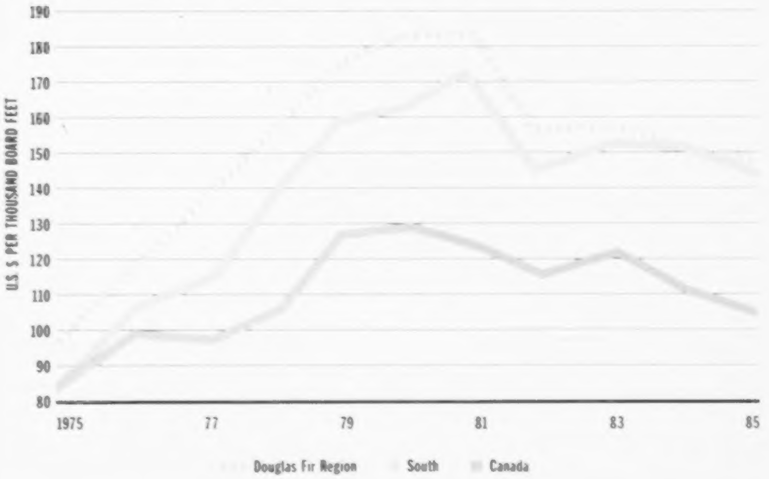


Figure 2: Nominal Delivered Wood Costs

steady decline in interest rates and strong underlying demographics, housing construction has led U.S. lumber consumption to levels near the 1978–79 peak. Production in Oregon and Washington lumber and plywood mills has increased apace.

At the same time, however, prices of solid wood products remain near their recessionary lows. Margins, as a result, are extremely low for average cost producers—far lower than would be expected given the high levels of output. The current price depression derives from two principal sources: overcapacity and reduced wood costs.

Overcapacity. Pacific Northwest lumber production capacity expanded markedly beginning in 1982, due in part to anticipation of a strong recovery and as a result of efforts to increase productivity. Major capacity increments have also been added in Canada and the South. The results are North American operating rates for lumber well below those observed in 1976–77, a similar period of cyclical recovery, despite record output levels (see Figure 1). The largest part of this excess capacity is in the Pacific Northwest, where operating rates are estimated at 77 percent in 1985 compared to roughly 90 percent in the 1976–77 upturn.

Reduced Wood Costs. Cost pressures on price have been reduced by major declines in stumpage prices and the cost of wood delivered to the mill since 1979 (see Figure 2). This has resulted in part from downward revisions in producers' expectations of future product prices and lower bids for timber from public lands. It also reflects lower demand and prices in log export markets and reduced log input demand due to improvements in processing efficiency.

The Pacific Northwest continues to face increasingly stiff competition from producers in Canada and the South. The region's domestic market share has continued to decline since 1979, with an additional loss of roughly half its share of the Midwest market and further displacement, though at a much slower pace, in the West. Erosion of the region's competitive position results from two major forces affecting its delivered product costs in regional markets: the exchange rate and production costs.

Exchange rate. Between 1975 and 1985, the value of the U.S. dollar increased some 34 percent relative to the Canadian dollar. All else equal, this exchange movement would represent an equivalent percentage pricing advantage for Canadian producers in U.S. delivery markets and the basis for further market share expansion. Indeed, over this same period, Canada's share of the U.S. softwood lumber market rose from roughly 20 percent to more than 32 percent. After appropriate adjustments for changes in relative producer costs, recent studies suggest that something less than half of the gain in Canadian market share can be directly attributed to exchange rate movements. Analysis of regional market share patterns indicates that western producers, particularly in the Pacific Northwest, have absorbed the bulk of these market losses.

Production costs. The Pacific Northwest is the high-cost producer in North American lumber and plywood markets. Wood is the largest single cost component and during the seventies wood costs grew dramatically (see Figure 2). Southern wood costs have climbed to match those of the Pacific Northwest, but Canadian costs (exchange rate adjusted) remain more than $40 per thousand board feet lower. Figure 3 illustrates trends in unit labor costs, the second largest cost component of lumber. Southern labor costs have traditionally been lower than those in the western regions. Lower hourly wages and fringe benefits in the South more than outweigh the advantages of the higher average output per worker in Pacific Northwest mills. Average Canadian labor costs

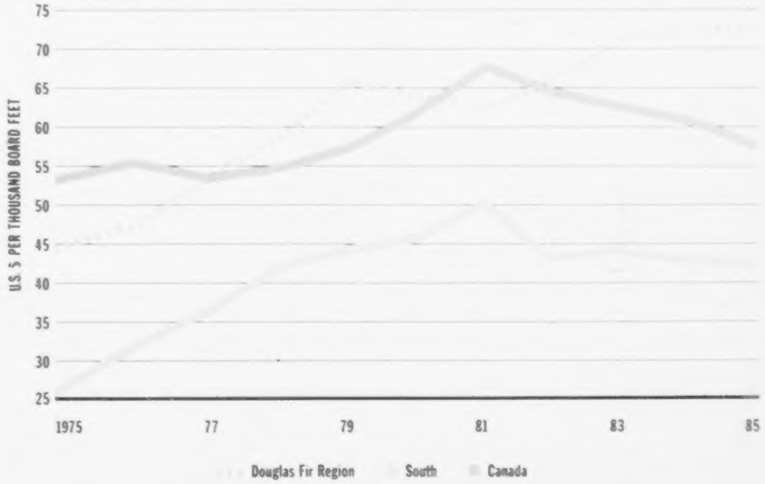
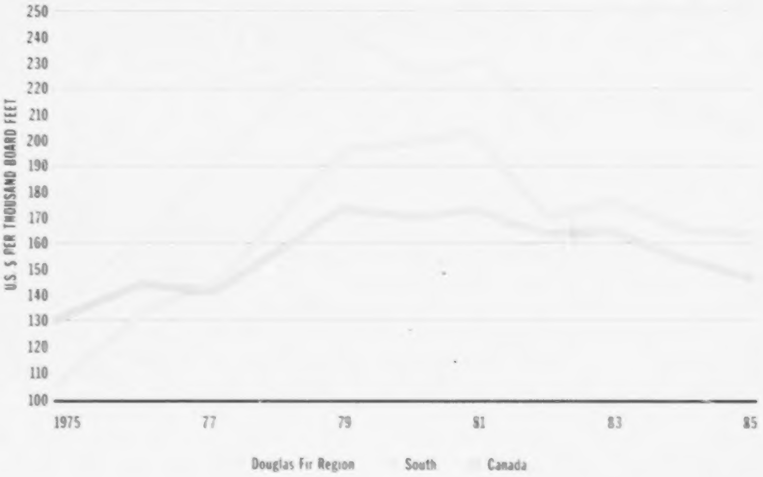


Figure 3: Nominal Labor Costs

Figure 4: Nominal Lumber Production Costs



have not differed greatly from those in the Pacific Northwest until recent years. Combining wood, labor, and miscellaneous costs yields the total lumber cost trends depicted in Figure 4. Though Pacific Northwest costs have trended downward since 1979, they have continued to diverge from those of major competitors with concomitant effects on competitiveness.

During the seventies, exports of softwood logs were a significant source of revenue for firms in the Pacific Northwest. Both export volumes and prices declined sharply in the wake of the collapse in the Japanese housing market in 1980. Volume has recovered in 1984–85 to roughly 85 percent of its peak level in 1979. This has principally been due to increased exports to China that now account for more than 30 percent of shipments. Japan's share has dropped to roughly 56 percent from its peak of 92 percent in 1979. Export prices, while still at a premium relative to domestic logs, have dropped more than 30 percent from their 1980 peak and continue to trend downward. This reflects a potential export log supply (including the newly expanded supply from Alaska) that is substantially higher than current demand, continued strength of the U.S. dollar relative to other Pacific Rim currencies, and reduced competition for logs from domestic buyers.

Changes in Industry Structure

The key concern for regional forest products producers in the present market climate is to control and reduce costs. Efforts to do so have led to important changes in the structure of the industry and in the operating philosophies of many firms.

Labor Productivity and Costs. By almost any gauge, the region's industry shifted toward a more labor-intensive mode of operation during the seventies. After more than two decades of continuous improvement in output per person-year in the fifties and sixties, labor productivity in both logging and milling stabilized and then declined during the seventies. Employment, which had trended downward prior to the seventies, stabilized and began to rise. The cost impact in the case of lumber is clear from Figure 3. Current measures to control labor costs are partly reflected in the recent increase in regional forest products output to near record levels with an attendant employment increase of only some ten thousand jobs—roughly a third of those lost in the 1978–82 decline. The result in terms of labor productivity is illustrated for lumber in Figure 5 by the large increases in output per person-year after 1982.

In addition to reorganization of milling facilities to use less labor, some firms have sought and received reductions in pay scales and worker benefits. In-house personnel and costs have been further reduced by increased contracting of both production and staff services with outside firms. Significant reductions have also been made in mid-level management positions. In labor negotiations, some efforts are being made to establish agreements linked to the performance of individual mills rather than at the firm or industry level. Management objectives for new labor agreements appear to focus on pay and benefit systems that would require labor to absorb some of the losses in hard times as well as profits in good times. In a region where labor costs are already the highest in the industry and many mills operate with low margins, traditional approaches of linking wage increments to productivity improvements alone no longer appear feasible.

Mill Ownership. The composition of mill ownership in the Pacific Northwest has shifted significantly since 1980 from large, integrated firms toward small, nonintegrated producers. A recent estimate suggests that nearly half of the mill ownership changes between 1980 and 1983 involved transfers from large to small firms. The logic of this shift is that smaller firms, being less rigidly unionized, can operate at much lower labor costs than their larger counterparts. The short-term impact of this shift has been to produce an extremely wide range in average operating costs for mills in the region, with large, integrated, unionized firms on the upper end of the continuum. The full significance of this in the longer term is not clear, but it will certainly bring additional downward pressure on regional wage rates.

Forest Land Ownership. The collapse of regional stumpage prices to roughly half of their level in 1979 has meant a dramatic drop in the value of timberland assets held by forest products firms. Low stumpage prices, high real interest rates, and the need for additional cash flow have led many firms to reconsider the significance of forest land ownership to firm objectives. In some cases, efforts have been made to liquidate merchantable timber or sell timberlands to capture whatever capital value remains. Complete data are not available, but a rough estimate of the area of industrial timberland sold (directly or through limited partnerships) or offered for sale in the Pacific Northwest since 1982 would be on the order of 1.5 million acres—roughly 15 percent of the 1978 industrial holdings. While this is not a major portion of the industrial timber base, it is clear that some firms no longer view land ownership as an unmitigated benefit in their operations.

Prospects for the Future

The general outlook for solid wood products demand in the remaining years of this decade appears to be favorable, with considerable strength in the housing sector. By 1990, however, the number of persons in prime household formation ages will have begun to decline (the maturation of the last baby boom) and housing demand will drop as a result. Despite the strong near-term demand outlook, some reduction in Pacific Northwest production capacity seems likely given the competitive position of the industry. In the longer term it will be unavoidable. A drop of at least 10 percent would be required to return current regional operating rates to the normal 80 percent to 85 percent range. The timing of such reductions is unclear and depends heavily on firms' willingness to accommodate continued low margins.

Costs. Cost reduction will remain a primary objective for Pacific Northwest producers for the indefinite future. Major gains have been made, as the labor productivity data in Figure 5 clearly illustrate, but more will be required if the region is to reduce the cost gap relative to the South and Canada. Labor costs will continue to receive major attention and inevitably raise the greatest controversy. Though difficult to document, it appears that gains have also been made in controlling wood costs through improved sorting and merchandising systems and processing techniques. Further gains can be expected in this area.

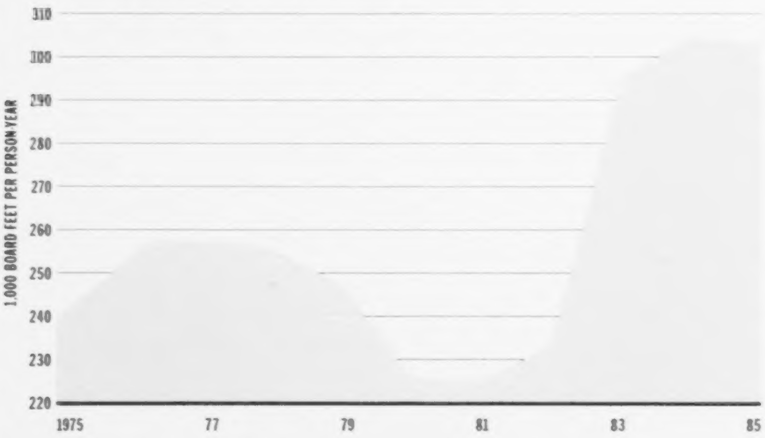
As a result of productivity improvements, declining stumpage prices in the Pacific Northwest, and rising stumpage prices in the South, the costs of logs delivered to Pacific Northwest mills are now roughly equal to those of other U.S. producers. Maintenance of this parity in the future, however, is far from certain. An array of studies conducted during the late seventies and early eighties has suggested that inventory deficiencies on private lands could necessitate a decline in regional timber harvest over the next two to three decades. Though overshadowed by more immediate concerns in recent years, these problems have not disappeared. What is more, they may be intensified by the very likely possibility of a major reduction in Pacific Northwest public timber harvest. New management plans for the region's national forests are just now emerging from the U.S. Forest Service's land management planning process. They are reported to contain proposals for harvest reductions of 15 percent or more for various forests. In addition, environmental groups are now mobilizing to seek legislative restrictions on harvesting in all remaining old growth stands in the national forests. The effect of these combined harvest reductions would be to put additional upward pressure on regional stumpage prices and wood costs. It would be difficult to pass such cost increments along in the form of price increases.

Domestic and International Markets. With continued concern for the region's competitive position, producers are turning increased attention to their marketing strategies and the types of markets they serve. Further decline in the strength of the U.S. dollar will revitalize industry's longstanding efforts to expand markets in Pacific Rim countries. Japan remains a major interest, and China has emerged as potentially significant. In domestic markets, the high volume, commodity product strategies of the seventies (which might be feasible for a low-cost, highly competitive producer) are being replaced by efforts to find more restricted market niches. Producers and industry associations see considerable opportunity in specialty applications of wood in nonresidential construction, manufacturing, and residential upkeep and repair. As the principal remaining source of clear and large dimension wood material in North America, the Pacific Northwest is also emphasizing an array of markets for higher quality products.

While prospects of offshore competition are improving with a declining dollar, the Canadian-U.S. exchange rate remains high, supporting Canada's growing share of the domestic lumber market. Recognizing that the exchange rate accounts for only part of the Canadian advantage, pressure remains strong in some sectors of the industry for a speedy resolution of the lumber trade issue. Negotiations underway over the past several months have shown no progress and were adjourned with the introduction of a petition for tariff relief to the U.S. International Trade Commission. Import restriction bills are still alive in Congress. Recent Administration approval of the shake and shingle tariff is interpreted by some proponents as a signal that a lumber tariff might also be approved. It is not known how the Administration views the more significant lumber question nor how closely it may wish to tie resolution of the lumber issue to the proposed initiation of negotiations on general reductions in Canadian-U.S. trade barriers. It is clear, however, that a restriction on Canadian imports would have a positive effect on the market prospects of the Pacific Northwest.

Figure 5: Labor Productivity in Lumber for Washington and Oregon

lumber output per person-year



Conclusion

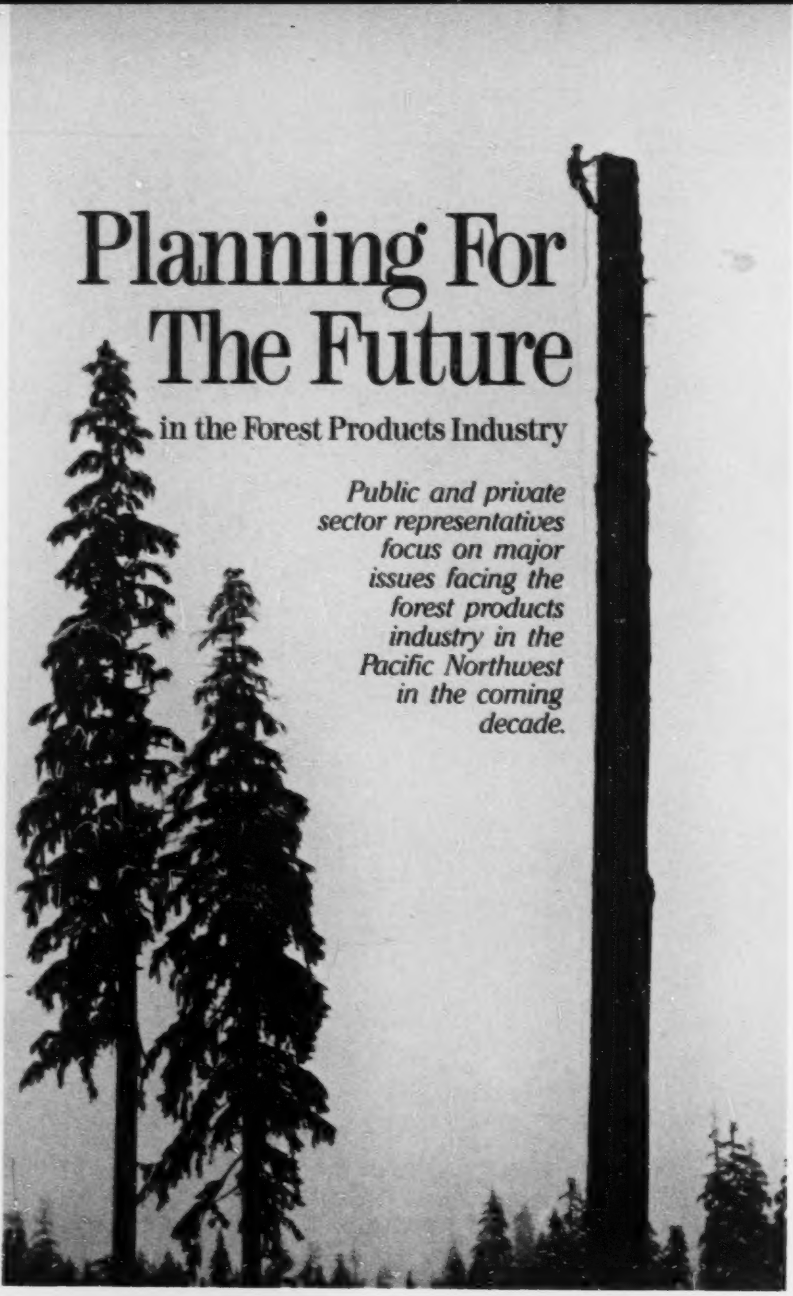
In almost every respect, the events of the seventies were an aberration in the longer term trends of U.S. forest products markets. The industry of the Pacific Northwest is now in the process of adjusting to these more persistent economic realities. The cost of adjustment will be high for companies, labor, and timber owners. The changes set in motion during the current recovery and the prospects outlined above all suggest, however, that the industry emerging from the eighties, while smaller, will be far more competitive and flexible in meeting the continuing challenges of the future. ılı

Darius Adams is a professor of forest resources management at the University of Washington.

Planning For The Future

in the Forest Products Industry

Public and private sector representatives focus on major issues facing the forest products industry in the Pacific Northwest in the coming decade.



DAVID BARNES / APERTURE PHOTOBANK

The Role of the Public Sector

by Thomas R. Waggener and David B. Thorud

A basic and sustaining part of the economy of the Pacific Northwest is the forest products industry. Although this role is acknowledged, public perception of the significance of this industry is less clear, as is the understanding of the public sector's role in fostering its continued health.

An Overview in Washington

Some dimensions of the forest products sector in Washington's economy are presented below. In Washington state, 42 percent of the land area is commercial forest. In 1984 these 18 million acres produced 5.8 billion board feet of timber, the basic raw material for subsequent forest products, with 20 percent coming from national forests and 15 percent from state-owned lands.

Large, integrated producers and small, independent loggers and shake producers make up the composite forest products sector in Washington. These 2,000 businesses also include secondary processors of wood, either in solid wood products (mill work and wood furniture) or paper products (bags, corrugated packaging, and the like). Production of pulp and paper products also adds to the forest products base in the state. The latest data available show that in 1982 the 21 facilities in this sector produced about 3.1 million tons of pulp and paper.

Production translates into jobs and income for workers. Through the seventies, the industry supported just over 50,000 jobs in lumber and wood products and 16,600 jobs in pulp and paper. With increased productivity per employee and the economic downturn in 1979, employment also declined. Employment in 1985 was 37,900 in lumber and wood products and 16,400 in pulp and paper, accounting for 18.5 percent of all manufacturing employment in Washington.

In addition to providing jobs, commercial forestry operations contributed $4.8 million in 1985 to Washington's tax base through state and local property taxes. Annual timber yield tax distributions to counties exceeded $50 million in 1980–81. By 1985 the decline in harvest value, influenced by both harvest volume and market value per unit of harvest, resulted in county tax distributions of $24.8 million. The business and occupation tax also brings in considerable revenue (see chart on next page).

Income derived from resource management by the Department of Natural Resources (DNR) on state-owned trust lands in Washington goes to the state and counties to support public education, state institutions, and the major universities. Harvest from DNR-administered lands provided revenues to the state of $140.9 million for FY85, up from $123.9 million in FY84. Of this amount, timber sales and extensions of timber contracts accounted for $121.1 million. Over $50 million was distributed to the common schools construction account, and an additional $1 million went to the common school permanent fund. Counties received over $20 million, and the University of Washington received almost $6.5 million for the bond retirement account, which funds major capital construction. Over $42.2 million was retained by the state for reinvestment in the future management of the trust lands, with $32.8 million of this amount derived from timber income sources.

Washington's Commercial Forest Products Industry

RESOURCES
- 18 million acres of commercial forest land
- 1.8 million acres of state-owned trust lands are productive timberland
- 5.2 million acres of commercial national forest lands

BUSINESSES
- 2000 firms overall including secondary processors
- Over 500 directly handled and processed wood products in 1984
- 170 sawmills produced 13% of the U.S. lumber output
- 27 veneer and plywood plants produced 7% of the national output
- 395 firms were in the shake and shingle sector
- 125 firms engaged in international trade and export of wood products
- Gross 1985 business income was $6.6 billion (second only to aerospace in Washington manufacturing)

EXPORTS
- Over 7,000 jobs in 1981 were associated directly with forest products exports
- 493.5 million board feet of softwood lumber were exported in 1985 (59% to Japan)
- 2.4 billion board feet of softwood logs were exported in 1985 (56% to Japan)
- Washington log exports accounted for 65% of the U.S. total in 1985

1985 TAXES
- Property: $4.8 million collected on 6.9 million acres of private commercial forests
- Harvest: almost $20 million of the harvest tax went to the state and $24.8 million to counties
- Business and Occupation: $30 million was collected, about $18.1 million from lumber and wood products firms and $11.6 million from pulp and paper operations

The U.S. Forest Service manages the national forests whose timber contributes significantly to the production of finished products. Some 25 percent of the receipts from federal resource management (including timber) is returned to the state and counties for schools and roads. For FY85, a total of $21.4 million was received, with payments of $5.1 million to Skamania County and $2.5 million to Lewis County. Whatcom, Yakima, Chelan, Clallam, Jefferson, and Snohomish counties all received shares in excess of $1 million. Under similar programs of payments in lieu of taxes, Washington state and counties received approximately $3.5 million from resource management of lands by the Bureau of Land Management in FY84.

Structural Changes

The health of the forest products sector is largely determined by access to viable markets and a competitive cost structure that permits the industry to maintain profitable operations within the state. Substantial structural change has occurred in this industry in the eighties, resulting in a reduction in the traditional competitive economic advantage relative to other production regions, both domestically and abroad. Timber availability and cost, labor, transportation, and shifting markets have all contributed to this situation. Public response to these factors includes actions designed to assist in maintaining a cost-competitive structure as well as promoting greater access to markets.

With respect to the costs of producing and selling forest products, the major public interest is in the area of tax policies and timber supply. The 1971 Washington State Legislature established new tax policies whereby standing timber was removed from the property tax rolls and was alternatively taxed at the time of harvest. Furthermore, forest lands were classified and designated for timber production, and taxed under existing property tax statutes on their forest production value rather than on market values influenced by nonforestry factors such as urban development and recreational subdivision. Although not free from controversy, this policy change in tax structure has both modified the tax liability for forest owners and shifted the major tax liability to the time of harvest when timber income is received. These changes have also prevented an acceleration of taxable land values unrelated to timber productivity. Further changes that became effective July 1, 1985, will gradually reduce the yield tax rate from 6.5 percent to 5.0 percent by July 1, 1989.

Public timber supply questions remain of considerable concern, particularly with respect to long-term public policy. The state, through the Board of Natural Resources, adopted a programmatic Forest Land Management Plan in 1984. This plan will guide timber and nontimber management planning from 1984 to 1993. At the federal level, the U.S. Forest Service will soon release forest plans covering each national forest. These plans will likewise influence the volume, timing, and location of timber harvesting over the next decade and into the next century. The forest products industry will evaluate these proposed plans with respect to timber availability and the adequacy of sustaining existing and planned forest products conversion facilities.

Historically, concerns regarding the adequacy of public and private timber supply dominated considerations of the long-run economics of the forest products industry. Recent market developments, however, have radically altered this traditional viewpoint. No longer can the industry take adequate markets for granted. Structural changes in market demand and geographical changes in interregional competition mandate that a market viewpoint complement the traditional concerns about production. Changes in demographics have altered housing and construction patterns. Deregulation of domestic transportation has led to higher costs for Northwest producers, thus shifting the competitive advantage between both the Pacific Northwest and the Southeast and major competitors in Canada. Although aggregate market demand has recovered from the 1979–82 recession, the forest products industry in the Pacific Northwest has not shared substantially in the improved marketplace.

The State's Response

The state of Washington has responded in several ways to the emerging concern about adequacy of markets. Economic growth and recovery received attention by the Office of the Governor and the Washington State Legislature in the past six years. Forest products have been a recognized part of this overall effort.

The 1984 session of the Washington State Legislature approved funding for a provisional Center for International Trade in Forest Products (CINTRAFOR). Housed within the College of Forest Resources at the University of Washington, this innovative program coordinates University, state, and private efforts on expanding markets for forest products, thus avoiding duplication of effort. Continued funding for CINTRAFOR was authorized in 1985 through the Washington Department of Trade and Economic Development appropriations, with matching support from nonstate sources.

The fundamental responsibility for expanding trade and markets for forest products remains with the private firms engaging in forest products activities in the state. CINTRAFOR has established a comprehensive program of graduate education, research, market analyses, and coordination to help the state and the forest products industry create a favorable economic environment for such trade. Information is disseminated through a computerized database (INTRADATA), publications, and public technical seminars and symposia.

In fall 1985, in concert with CINTRAFOR, State Land Commissioner Brian Boyle convened a Forest Products Marketing Task Force to consider the necessary elements of an effective public and private program to facilitate economic development. The efforts of this task force have resulted in the formation of the Evergreen Partnership, a nonprofit corporation, to identify policy needs, disseminate market information, and serve as a forum for public discussion of forestry and forest products issues.

The state of Washington has, as does the entire Pacific Northwest region, a strong stake in the health of the forest products sector. Through the forestry activities of the Department of Natural Resources, the state is an active producer and is strongly influenced by the policies and programs of the federal government exercised by the U.S. Forest Service. Through the Department of Trade and Economic Development, it is creating a favorable economic environment for expanded investment and production by private landowners and industry. As a regulator acting in the public interest, the state influences private economic behavior through environmental, tax, and related investment policies. It also seeks to create balanced development and trade through a wide variety of domestic and international activities. Developments stimulated by the shock of economic recession can and should lead to a concerted effort to capitalize on the resource and economic potential of the forest products industry. The public interest points the way.

Thomas Waggener is director of the Center for International Trade in Forest Products (CINTRAFOR). David Thorud is dean of the College of Forest Resources at the University of Washington.

Options and Opportunities in Pacific Rim Trade

by David D. Leland

Before 1962, wood products trade with Pacific Rim markets was negligible. Stateside commerce was good, and few saw any reason to develop faraway markets that were difficult to serve. When the Columbus Day storm hit the Northwest that year, the high winds felled millions of board feet of standing timber. We could not process the logs fast enough, and no one wanted to flood our domestic markets foolishly. Some smart person looked across the ocean and Pacific Rim trade got a shot in the arm.

That start is typical of the forest products industry. With many managers subscribing to the theory "if it's not broken, don't fix it," which worked for decades, things finally broke. Now we are scrambling to develop new markets and products and finding ourselves confronted with an entirely new set of circumstances, options, and opportunities. Some of these involve attempts to restrict the export of unprocessed logs, establish protective tariffs and other nontariff barriers, restrict foreign markets, and develop government/industry partnerships.

Our only option is to move quickly in developing an international marketing orientation instead of our old-time production orientation. Opportunities, and accompanying risks, are as wide and deep as the ocean. For the record, log exports from the Seattle Customs District to Pacific Rim countries totaled 1.9 billion board feet in 1985, worth about $587 million, with Japan buying 53 percent, China 33 percent, and South Korea 14 percent. In addition, we exported 305 million board feet of finished lumber to China and Japan in 1985 at an average price of $328 per thousand board feet.

Log export figures show that China is just beginning to be a player in the trans-Pacific forest products trade, having imported no logs at all from us before 1979. Considerable concern regarding the desire of China to import mainly raw logs from Washington has been expressed by many people in our state including some of our congressional leaders. Clearly, manufacturing the logs into lumber and plywood would provide more jobs at home. However, those who have observed wood products commerce in China have seen that the infrastructure is not in place to get the correct finished product to the right place at the right time. There are no uniform product standards in place now nor are there economic incentives in the marketplace to develop production of a particularly needed product. With proper product promotion and further development of market incentives in their economy, finished products will eventually supplement raw log shipments. Industry trade associations and the U.S. government have commissioned a major study, due in late 1986, of the Chinese distribution system and potential market niches for U.S. lumber and plywood.

The market development program of the USDA's Foreign Agricultural Service has been a great help in overseas marketing. In the last five years, the forest products industry has built a major industry/government partnership that is helping to increase U.S. exports. Without this assistance, it would have been much more difficult to penetrate these highly protected markets.

Tariff Schedules in Japan for Imported Wood Products

	Pre-MOSS Talks 1984	1986	April 1987	April 1988
Veneer	15%	15%	5%	—
Softwood Plywood	15%	15%	12.5%	10%
Finished Softwood Lumber*	10%	10%	8%	—

*Non-exempt species and sizes

With stimulation and support from industry, our government recently asked the Japanese government to reduce tariffs on imported wood products in Japan. The MOSS (Market-Oriented Sector Specific) talks resulted in the reduction of a number of tariffs over the next few years (see chart above). Progress was also made in breaking down nontrade barriers such as species discrimination and product certification procedures. Although gains were made in opening Japanese wood product markets to U.S. producers, more are needed. A second round of MOSS talks is slated for 1987.

A marketing demonstration project, Summit House '86, has been erected in Tokyo with the cooperation of industry trade associations and the U.S. government. So named because it was finished during the Tokyo Economic Summit, this three-story, multipurpose structure uses only U.S. wood products to demonstrate that wood products of all types (two-by-six wood frame construction in particular) are viable and inexpensive alternatives to masonry and other construction currently in use in Japan. U.S. industry is also building two demonstration wood houses in Beijing and Dalian, China. The Beijing house, completed in February, has been well received by the Chinese government and press.

Other Pacific Rim markets include Korea, with its high softwood tariff of 30 percent. A formal package of phased tariff reductions has begun in response to U.S. pressures, but more cuts are needed before the Korean market will become very attractive to U.S. industry. Taiwan is another possible market with high tariffs. Negotiations and studies of tariff reduction are in process, but progress is slow. India is attracting interest from the U.S. wood products industry mainly because of the size of its population, projected population growth, and significantly overcut forests. New policies of the Indian government may open this market to foreign wood products.

Closer to home, concern over the importing of Canadian lumber has reached a fever pitch recently with the threat of protective tariffs and countertariffs. It seems very contradictory and indefensible for our government to pressure some countries to lower tariffs while raising our own tariffs for other nations. The most effective way to meet the competition from Canada is for our industry to meet the needs of our customers and lower the cost to produce our product.

The forest products industry of the Northwest has been undergoing a restructuring not dissimilar from that taking place in other basic U.S. industries. In the past, many in our business thought the forest products industry was different. We are not. The same principles of sound management apply. Those who survive will serve the needs of their customers both at home and abroad with quality products, will remain flexible and adaptable, and will keep their costs low.

David Leland is president and chief executive officer of Plum Creek Timber Company, Inc.

The Outlook for Pulp and Paper

by Furman C. Moseley

In recent years, the forest products industry in general and the Northwest segment in particular have been dealing with revolutionary change. This revolution has been caused by oversupplied markets for virtually every wood-based product, regionally high raw materials and production costs, loss of significant national market share for lumber to Canadian producers, and lower U.S. exports caused by the too-strong dollar (which peaked in 1985).

In response to these dramatically changed conditions, especially in the Northwest, forest products companies have adopted a survival strategy that includes the following:

- downsizing both operations and staff;
- decentralizing management to accelerate decision making;
- divesting nonstrategic mills and properties;
- dropping unprofitable or unpromising product lines; and
- reducing all production costs to a point most people thought impossible before the revolution.

The Northwest pulp and paper industry has also had to deal with change, but to a lesser degree than the building products business. However, an unfavorable byproduct of this turbulence has been a feeling by some that the industry is less than competitive and that opportunity has peaked for Northwest manufacture of pulp and paper products. Although this vision of gloom could be self-fulfilling, there is evidence of substantial future opportunity. I believe the Northwest will emerge with stronger economic underpinnings than before.

The fiber industry in the Northwest had its origin in the pulping of Douglas fir, largely for brown papers and container boards, much like the pattern of pulping southern pine. The evolution to bleaching and more papermaking, and the formation of companies capable of larger investment, caused the build-up of a substantial regional industry. Great impetus came from low-cost fiber in the form of sawmill residues, low power costs, competitive water transportation, good regional markets, and adequate access to export markets.

During recent years, however, several counterforces arose to change this comfortable circumstance. With the export of wood chips, a sharp rise in Northwest raw material costs took place before cost-effective roundwood chipping facilities were established in the region, causing the area to become the high-cost U.S. producer. This difficult situation was made worse as hourly wages became disproportionately high in the region and the advantage of low power costs began to fade. These changes affirmed the earlier wisdom of those who moved into the southeastern United States, where about two-thirds of the U.S. pulp expansion of the seventies and eighties occurred. To make matters worse, the too-strong dollar recently added to the industry's misery by making pulp and paper export markets uneconomical while attracting imports of the same to compete for U.S. domestic markets.

We survivors are now happy to be able to say "that's history." I am pleased to forecast a future of better adventures and less adversity premised, in part, on the realization that raw material in the Northwest is abundant. This region is easily one of the world's best for growing quality softwood and this advantage will become clear as we complete the shift from old growth to young growth trees that yield more chips per unit of lumber and generate better quality fiber products. Furthermore, because the harvestable trees are at lower elevations, the logging and hauling costs will be less, and reduced wood costs will once again become a Northwest strength. Indeed, it would not be surprising to find the Northwest the low-cost softwood area for U.S. pulping by the end of this decade.

While it is probably true that environmental constraints have made good new mill sites scarce in the Northwest, most existing sites lend themselves to considerable expansion thereby renewing competitive standing through economies of scale. A good example of this is the Port Townsend mill purchased by Haindl, the German paper company, from Crown Zellerbach. It has improved process flow and increased capacity by approximately 40 percent.

A by-product of the process of restructuring and concentration among companies is the promise of better ability to cope with the big investments needed. It is likely that larger units will be inspired by the growing export potential from our excellent Northwest ports to Pacific Rim markets. The result may be that Northwest mills will have economies based on our relatively low-cost raw material combined with scales of operations designed to serve our regional domestic markets and those of Japan and the Pacific Rim. The latter are forecast to grow at a greater pace than most others over the next several decades. This growing opportunity accounts for the intense efforts underway to ensure that foreign trade barriers come down so that the low-cost Northwest manufacturer can better serve these market needs. Accomplishing these developments will not be easy, but then our pulp and paper industry has not been built on a base of ease.

Furman Moseley is chairman of Simpson Paper Company.

Basic Industry: A Matter of National Survival

by Robert L. Spence

Since World War II, there has been a marked change in attitude toward America's industrial base. Although this change threatens our standard of living, it is going largely unnoticed by the bulk of the population. It is time society realizes that without basic industry, America cannot maintain its position as an economic superpower. The resources upon which industry is based, however, are being set aside at a detrimental pace. Without raw material, basic industry cannot survive.

Remember the praise and adulation given U.S. industry in the fifties for its creativity and productive might? Society took great pride in its industrial capabilities and experienced a substantial increase in overall prosperity provided by that industrial base. Today the attitude toward our industrial base has become negative and is beginning to undermine past progress. The most obvious warning signs of this are our enormous trade deficit and our huge internal budget deficit. More subtle signs can be found in our terminology. Cliches such as "smokestack industries" and "sunset industries" have not only branded all heavy industry as being unclean, but have pronounced it dead as well.

The cost of this shift in attitude could be justified if the social and environmental concerns were directed toward constructive improvement in the industrial community. The demands, however, have gone beyond this balance and have given the advantage to our foreign competitors. Our industrial producers have thus been challenged in two primary areas: accessibility to basic raw materials that are essential to the production of goods and services, and the process required to convert those materials into a finished product. The result is increased product costs that often give competitors the edge. Additional costs for environmental and human protection in conversion facilities can be absorbed by industry, however, and are, in fact, crucial for the overall health of society.

In contrast, continual reduction of access to raw materials is beginning to have major impacts on our economy. Simply stated, our economy cannot function and maintain its current standard of living without an industrial base, and industry cannot survive without access to raw materials. We are currently living with the illusion that losses in the industrial sector can be made up in the service sector; however, a substantial number of service jobs are directly related to deficit financing and not to growth attributable to the creation of real wealth. To properly understand this development, we must devise a balanced, rational approach to the conflict between preservation and usage of our natural resources.

The timber industry is a prime example. Preservationists have been successful in locking up millions of acres of timberlands in the Northwest without explanation or acknowledgment of the economic consequences of their policies. In many cases the industry itself is to blame for the negative image created by some of its practices and its insensitivity to public concerns. Many of these practices can be changed through dialogue and with renewed efforts by the industry to accommodate society's environmental, aesthetic, and recreational desires. In any case, the public view of industry must be objective enough to understand the benefits that this industry provides to our economic environment.

For the timber industry, the resource base provides the incentive to be creative in developing not only better and more sophisticated conversion processes, but also new and different wood products to serve an expanding world population. The knowledge that this resource is accessible stimulates business people to develop new ideas and gives them the confidence to take the risks involved. Confidence is the key ingredient to economic success.

In the Northwest an entire infrastructure has been created around the timber base, with billion dollar facilities becoming the lifeblood of many communities. The jobs created and the tax base formed provide local and state governments with a source of revenue. Huge investments are made annually to replace plants and equipment to help keep the industry modern and competitive. Even the nurseries that grow seedlings to ensure a continuous crop of trees contribute to both employment and beautification of the state. Tourism and recreation-related jobs are often linked to the industry because many of the road systems were developed and paid for with timber harvest receipts. Those who use national and private forests for recreation are often unaware that the access roads to a high mountain lake or trail were built and maintained by the industry, not public tax dollars.

Industry is fundamental to the economic health of the United States, and the timber industry is fundamental to the economic health of the state of Washington. It is crucial that we as a society understand that the source of our wealth and security lies in our ability to continue to create wealth. In order to maintain our economic viability, we must allow our natural resources to be used, and used wisely, thus providing the economic security that we enjoy and our children deserve.

Robert Spence is vice president of Pacific Lumber & Shipping Company.

The Role and Future of Organized Labor

by Lawrence Kenney

The recent past has been a difficult period for workers and their unions, which have never been popular with employers. Union busting, a growth industry in the mid-seventies, peaked in 1981 with the air traffic controllers' strike. Concession bargaining during the eighties has raised the question of whether unions can advance workers' economic welfare in the future. If not, the assumption seems to be that unions have no function or future.

Functions and Trends

Viewing unions solely as economic entities is a limited perspective, yet unions undeniably have an economic function. They do much to determine the methods of compensation, but they also play a role in determining working conditions, discipline in the workplace, job safety, protection from arbitrary management, and job security. Unions also help workers choose between money and leisure, health care and cash, and act as agents in facilitating provisions for retirement income.

Without unions, individuals are voiceless and powerless in the face of unilateral or hostile actions by their employers. To assume that employers will recognize and maintain their employees' best interests above, or even equal to, other economic factors is naive. Deregulating to promote competition has resulted in an attack on the hours, wages, and working conditions of workers. The stockholders and creditors of Eastern Airlines, for example, did not demand that Eastern's bankers reduce interest rates or that their major equipment suppliers reduce prices, but they did demand that Eastern obtain wage concessions from its pilots, flight attendants, and machinists. Continental Airlines did not demand that the banks take a 25 percent cut in interest payments, but it did not hesitate to impose a 25 percent wage cut on its workers. Other corporations have acted similarly.

Organized workers cannot be ignored by the economic and political forces in society. From the time of the building of the pyramids—the first recorded collective job action ever undertaken—to today's discussions about quality circles and employee involvement, worker associations have existed to serve as a voice for workers, individually and collectively. Whether organized formally or on an ad hoc basis, worker organizations are formed to respond to changes in the economic or political environment. This "voice" function is perhaps the most important role of organized labor.

These days it is not unusual to read about the continuing decline in union membership. The United Auto Workers had 1,250,000 members in 1955 and only 974,000 in 1985—a loss of nearly 300,000 members; the Steelworkers and the Machinists have suffered similar declines. But that is not the whole story. Contrast those numbers with the Service Employees International Union, which grew from 205,000 in 1955 to 688,000 in 1985—an increase of almost half a million members. Even more startling is the growth of the American Federation of State, County, and Municipal Employees from fewer than 100,000 in 1955 to almost a million members in 1985.

Membership losses suffered by the traditional unions have not occurred because of any disaffection among union members. In fact, a recent poll revealed that more than three out of four trade union members are extremely or reasonably well satisfied with their unions. The massive shift in the structure of our economy and high unemployment levels are the major causes of organized labor's membership losses. In industries that have suffered economic reverses, union membership has declined. The transformation from a rural to an industrial economy spurred the growth of industrial unions. The change to an information economy will stimulate even further growth among unions, but it will be different unions designed to deal with problems in those areas of the economy that are expanding.

In the AFL-CIO, both nationally and locally, the declining membership trend has been reversed. The Washington State Labor Council lost 30,000 of its 170,000 members from 1980 to 1984, but is now back up to 150,000 members.

Preparing for Effective Change

Simply recovering lost membership is not enough. Unions are exploring the factors that have created the current problems and looking for ways to shape the future for all workers. At the national level, the AFL-CIO's Committee on the Evolution of Work issued a report last year entitled "The Changing Situation of Workers and Their Unions." This self-examination evaluates trade union efforts and suggests methods for advancing the interests of workers, ways to increase membership participation, and ideas on how to improve communications.

Two AFL-CIO communications projects have been launched. The first is a member-to-member approach to issues involving increased internal communications such as discussions of problems between union members and their leaders. The second is television training for union leaders to help them get their message to the public and their members in more effective ways.

Three other projects of the AFL-CIO are starting up. The union associate program brings an outreach package of direct benefits, including various forms of insurance and consumer services, to workers who cannot be represented by a union contract. For example, a Visa or Mastercard credit card has been available since June from fourteen international unions and will be available next year to all AFL-CIO members. This union-sponsored credit card has lower fees and interest rates, and a provision for suspension of payments during labor disputes or massive layoffs.

Coordinated organizing in the expanding health care industry is another priority. Seven unions are working together to address the problems of organizing the eighty-six separate companies that make up Blue

Cross-Blue Shield. Since union-sponsored health and welfare funds are a major source of income for health care providers, targeting them for unionization seems appropriate.

The last project involves strengthening the AFL-CIO's fifty state federations. Membership in the state councils is voluntary, as is affiliation with the AFL-CIO. International unions will help state bodies build their memberships so that they can do a more effective job of coordinating union activities in both the legislative and political areas.

Unions will change in the future. They will be more technically competent, more sophisticated in their use of the media, and more responsive to individual wants of their members. In the labor movement of tomorrow, specialists will deal with the complexities of pension administration, corporate buyouts and takeovers, and worker ownership, and organizers will use not only leaflets and signs, but VCRs and corporate analysis data.

Sharing the Benefits and Risks

Some claim that unions are roadblocks in the path to efficiency, but they ignore examples such as the longshore workers who negotiated a rational method of automating the waterfront without strife. Workers were allowed to share in the benefits of increased productivity without being threatened with the loss of their jobs. Unions do not resist more efficient methods of production, but they do insist that the benefits be shared.

Our basic wage theory has been grounded in the belief that the worker is entitled to a share of the wealth he or she helps to create. At the bargaining table that translates into arguments for a living, family wage, a wage sufficient to allow a worker to provide decently for his or her family. We have not yet put that theory aside. We see it challenged, however, by an employer theory that a "secondary earner" can be paid less, a rationale taken a step further by our government in its promotion of a subminimum wage for teen-agers.

Part of our response to the secondary earner assumption is the campaign for pay equity—comparable worth as it is known and now adopted in Washington state government. Despite the mystique about comparable worth, the idea of job evaluation is neither new nor revolutionary. The difference is that today's comparable worth job evaluations are designed to end wage discrimination based on sex, rather than provide a justification for low pay.

Recent Contract Negotiations

The settlement at Weyerhaeuser this summer included some substantial wage cuts and was accepted only after a second vote. It has not been a source of inspiration to anyone in the labor movement, which recognizes that collective bargaining is a continuing process. We never make all the gains we want in any contract. Sometimes we have to take our lumps, but there will always be another day.

This year's contract is only one of many negotiated with Weyerhaeuser during the last fifty years; many more will be negotiated in the next fifty. Changes made in one contract can be changed again in succeeding contracts. No loss is ever final; no gain is secured for all time.

These are not the best of years for organized labor. We have suffered many losses, but some gains have been made. In the immediate future we expect contract gains to exceed losses. Other contracts negotiated this year give evidence that the decline has ended. The Seattle janitors mobilized public support and defeated efforts to destroy their union. Grocery clerks in the Puget Sound area came out of their negotiations with no losses and some important gains. Negotiations with AT&T were almost 100 percent successful. Although negotiations are tough in the construction industry, there will be few, if any, concessions.

There is a growing feeling among the leaders of organized labor that the worst is over. Wage losses will be regained, health and welfare plan erosions will end, and fringe benefits will be restored. The union has survived and will continue to play a significant role in the economy.

American unions of tomorrow will continue to experiment with various kinds of employee stock ownership plans. Some of us remain skeptical about ownership plans, since shared ownership is undreamed of by prosperous enterprises. Somehow the concept that since workers do not share in the rewards they should not be required to bear the risks is set aside when the risk increases. The 1982–83 recession and continuing high levels of unemployment in many Pacific Northwest industries have put employers in the position of advocating the inverse of "share the profit" theories. However, sharing profits with workers may be an appropriate distribution of resources and an effective incentive to increase productivity.

Strategy for the Future

In the future, unions will emphasize job security in negotiations and job creation in political and legislative activity. A reduction in the forty-hour work-week, a standard that was achieved largely through the efforts of organized labor, will be a contribution to these ends. West Germany has recently taken a big step by reducing its standard work-week to thirty-seven hours through the efforts of the metal trades unions. The United States must do the same.

Unions of tomorrow will develop corporate campaign techniques to bring nonworkplace pressures to bear on reluctant employers. As pensions, once seen as a rather tenuous promise, move closer to becoming individual entitlements, unions will attempt to exert greater influence over corporate pension fund management and investment. We think of pensions as deferred wages, and it makes no sense for us to allow the portion that we own to be used to harm worker interests.

All of society has lost as a result of the anti-union activity of the last several years. Wage concessions and union busting have contributed to a decline of the middle class. For the first time in my memory, the median income in Washington state has fallen below the national average. What does that do to the sale of cars, groceries, and houses? How does the reduced buying power of workers benefit business?

A major target of contract concessions has been health and welfare plans. Cost-containment ideas such as deductibles, copayments, or even reduced coverage have been implemented in many instances and have impacted the provision of adequate health care for workers. This translates into a lower level of well-being in our society and a higher level of untreated illness. How has that benefited anyone?

Unions recognize that American society is moderate and pragmatic. It will never become a worker-controlled society, nor will it return to the conditions of the nineteenth century. Business will continue to run business, and workers will continue to organize and protect themselves against accumulated wealth and political power. Business and labor could accomplish much by respecting each other and recognizing their mutual dependence.

Unions are a changing, evolving movement encompassing a philosophy and set of ideas that remain alive even in the repressive conditions of a Poland or a South Africa. Ideas do not die; they develop, are modified, and sometimes are even achieved. I am optimistic that organized labor will continue to be a vital, effective, and powerful movement in America's future.

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